

SEQ ID NO: 1

1 TGCAAGCTTG CAAGTTTTAC TGTCTCATAT GGTTACACATA CCATTCATTT
 51 AGCGTGGCCT CACAACCAAC TTGGGAACCA CTGCCCTAAG TAACAATACC
 101 TCACATATCC ATAGGATCTT CAACACCATT CTGCTTAAAA TTCAAATCCC
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 251 CTGAAAGTAG CTTAGTTTCC ACAGCCCCGT GCAGAGCAAT ACGTTGTAC
 301 TGCTCTCAAA GAAGTACCAA CACAACATGC ATCAGCAGAG TTGCACAAGA
 351 CTAAGTAAAT AAAATTTGCT TAGCTGCTAG TGAAAACATA AGTATCCTTG
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 451 CAGCTAATCC TCGAAGAGCA AACTTGGTCG GAGAATAGGC TGTATAACCA
 501 AAAAGGCCTA ATTGCCCAGC CTGAGATGAT ACAAACACAA TCCTTCCCAT
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 601 CTAGATAATT GACTGCCATT AATCTCTGTG GGAAAAAAAAA AAGATATTAA
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2551	TATCCCCTCT	GCTAAACAAC	TATCAAGGTT	CTGAGGCAAC	TCAGTATCTT
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2651	TCATTCTGAT	TTCTACGTCT	TACTTTGTCC	AATTCCCTTA	AAGCTGGTTT
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2751	TTGTCATGAA	GCACGCCAAC	AAAAATGAAG	AAAAGCTTAC	CAAAGTGTA
2801	CTAACTGCTT	TGGCAGCTAG	TCATTTGTCA	GTTTTGCCTC	TGGTCAGACT
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3151	GACCACAGAT	CAGTTAATCA	TACTGAGAAC	AATATACTCA	GGAACACTA
3201	AAGCTTGAT	TGGCTACCAG	CACATTATAC	AATTCATCTT	TTTGCTTCTA
3251	TTATTGTATT	TCCTTTCTGC	TACATTAAGT	TGATTACCTC	CAGTCCAGAG
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3551	AAAGGCTGCA	CTGTCAGCAT	TCTAAATAAA	TCACATACAA	ATGTATTTCA
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3651	TGGTTCTCAA	TGCAACTTAG	TTTGACATAT	ATATACATGA	GCAGAATGCA
3701	CAGCATATAA	TCATGTAAAA	ACTGGTATTT	CCTCTGGATT	TTTGCTCCCT
3751	AGCTTGGCAT	CTTGCAAATG	TAACAGCCTC	TGTGGTCTGG	CAACCCATCC
3801	CAGACAACAT	TATACTTTCA	GCAATCTTCT	TGTACAGCCT	CTGTCTCTTT
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3951	AACAGTAGGT	ACACGAGGGC	ACTCCCCTCA	CAGCCAGATG	AAGTATGGAC
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4151	AAGCTTGGAC	AGATTTTAA	CAAGAGCATT	GTGACAGTGT	TTGACAAAGG
4201	ATCAAAGTCA	TTGTCAACCC	TGGGAAGAGA	CTAGAGCAAC	TAAAGGGAAA
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4351	AACATGCACA	GAAAGAAAGA	TCACCTTGAA	CCATTTGACA	GGAATGAGCA
4401	AAGACAGAAT	CTTGCTGAGT	GTTCTTGATA	TCTTCATTTA	CATCGGCTAG
4451	TACTAACATT	GCTTCCAAAT	ATCCATCTTT	CTCCACTGCT	TCTTTTCAGG
4501	AGAATATCCA	ACTTATCCAT	TCACCAGATT	ATTATACACC	CAATAGACAC
4551	CAAATCCCTT	ATCACAAACA	AATTGCTTGC	ACTTGTAATA	AAGAAAATAA
4601	GAACCAACTA	CTGGAGCACA	AGAGAGAGGA	AATCAAAGAT	GCGATGGTCT
4651	CAATGCTGTT	TCCCGTCTCT	TTTGGATTAT	GAGTATTAAG	AAAAAAAAGT
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5001	ATCTTGAAC	ATACAAACAC	TTATCAAGTG	ACAGCAAATT	GCAGCTATCA
5051	AAAAAACTC	TAATACACCT	ACAGGTGAAG	ATACCAATCT	TTTTCTCTGG
5101	GAAAAAAGT	TAGCATACTA	ACCAGGCAAC	ATCAAATGTA	GCTGAGTTTG

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Q gene exon 2

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Q gene exon 1

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			CpG island		
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12201	AGATAATGCA	GGAGATGAGA	TTGGAGCGGG	GAGTAGGCGG	AAATGGGAGC
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12851	TCATCTGCAG	TTAATTCTTA	GTAAAATGAA	GGTTAAACAT	GTTGGTAGGG
12901	GGCCTCTAAA	AACCTCAAAAT	GCATGATATG	CTCCTGATTG	GTCACAGTTA
12951	GGATCACATA	TTACTAAATA	TTTGAGAAGC	CCTTGATAGT	TAACGAGGAA
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13051	TAAGTGGCCA	CTTTACAACC	GTGTGATTGA	CAATCCAGGT	AGCGTCCACT
13101	CACATTTTGT	TCCTGGGGCA	GTGAAGTGTC	ATGAATTTAT	CTCCAAGAAA
13151	AACATTCAAA	AGTGAAGACC	TTGTGAAGTG	CTTATAACTC	ACCAATGTAT
13201	CGCCACAGCA	GTAGGTTTTT	GACTCTTTTT	AGGTATGCCA	GCAGGCACTG
13251	AAGTTTGCCC	TCCTGAGCTG	TCTGCTGTCT	GGTTTGTATT	TGTCTCATGT
13301	GACCTCATTC	ACTGAGGAAG	TGCGTTCCTG	ACACACGGGA	ATGGTTTGTCT
13351	ACGAAACTCT	TTTCTCAGTG	ACTGTGGAAC	TGGAAATTGA	ACCTTAAAAA
13401	AAAAAAGTGT	TGAAGCCCTC	CAGTCCAAAC	TTTGGTTGTA	CATAAAGCAG
13451	TATTTAATTA	ATCTGACCTT	GATTAACAAC	ATCAAAAAGT	GTAATTTTGA
13501	AGCACAAACT	GACCAAGGTA	TGTATGTACC	TTCGGGATGG	GTAAGAAAAT
13551	AAAAAGGTTA	ACACATGCTA	ATTGCTTTGC	TAATTAATCC	TTAGAAGCAG
13601	CTTCAACACA	ACAGCGATGT	GTTTAGAGAA	GAAAATCAAA	TACAGGTAGA
13651	TTAAAGCGTC	CAAACATATAG	GACCAGCTGT	GGTTTTCTGC	TTCTCAGTTT
13701	CTGTTTCATAT	AATCTTTCAA	CAGACGTTTG	CAGTAACAAT	GTTGTGGGTT
13751	GAGATAAATC	AGTATGAACA	AAGCATGGCA	ACCGAAGTAA	GAAAGTAGTC
13801	ATTTAAACAC	GGAAACAAAT	GTATGAATTG	ATAATATTAC	AACACAAGTG
13851	ACTGATACTA	GAGGTGTCCT	TTTGATCTTC	TTGTTCCCAA	AGCATACAAG
13901	GTACACACAG	AAGAGACACA	GGCTGTGTTA	AGATGCCATT	AAGAGAAGGC
13951	ATAAAGGTTT	GACAGAGCAG	GTAGTGAGGT	TGCAGCCTGG	ACAGACTTTC
14001	TTATTGCACT	TGAGTACTCA	TCTGCTGGAT	TTTCTGGTTG	TGTCATATTC
14051	ACGTTAGGGA	GAGAGGAGGG	AAAAAGAGCA	GGATGCGTAG	GCTACTCAGT
14101	GATTAAACAA	AAAAAAAAAAG	CTGGAAACTT	CTTCATGTGA	TTTCCATCCA
14151	GTCAGTCCTT	CTGCTTTTAT	AGAAAGCAGC	ATGAAGGAAA	AACTTCAGTA
14201	GCCAAGGAGA	ACAACTTTTT	CCTTCTGTTT	TCCTGAATTA	ACTTACTTTC
14251	CTCTCCAACC	TTCTCCCTTT	TGTGTAGCAA	GCATAGGTGT	TCTATGCTCA
14301	TTTCTTAAGA	GGTCTGTTGC	AGTAATCATC	ATAAGACATC	AAAGGCATGT
14351	TGGCAGTTCT	TGGATTCCCTG	CAAAGCTTCA	AGATTTAGAA	TGATGGCAGT
14401	CTAGGTGAGT	TGTTCCCTGGT	TAACAAGCTG	TCTTGATCCC	GTGTCCCAAA
14451	TGAGAAGAGC	TAATAGGGAC	ATAAGAAGTG	AAATCAGAAA	AGGATTTACA
14501	TAACATGCTG	GCAGTAGAGG	AGAATTGGGC	AAGAAATAAT	GATCTGCACA
14551	TGGTAGTGAC	TAAAGCAGTG	TGACTGAAAT	ACTTATCACA	CCCAGCTGCT
14601	TGCCTTGCTG	TTCTTCCCCA	AACAAACAAG	CAAATCCCTT	GTAGCTGAAC
14651	AATAGCTTCT	TTACTGGTCC	ATCACGCTGG	AGAGATCATC	AGCTACCCCA
14701	TGCATAGCAG	GGTGAAACAG	CTCCCAGAGC	ACTGTGCAGG	TCAAAGTACT
14751	ATATGTACCC	TGTCTGCTGG	AGTGCTATCA	CGGTGATCTT	CTGGGTATTC
14801	CTAGAAGGAG	ATTTCTTGTA	CTCCCAAGCT	CAACGTATCA	TCCAGAAAGT
14851	GCTCGCCTGC	AGCAGGGACG	GGTTCTGGCG	ATCTCTGCAG	CTTCCAGCTA
14901	TGCCGCATGC	CCTTATCGCA	ATGAACTCAG	GCTGGGCTGA	TGGCCCAGGT
14951	GCTGGAGGCT	GCCAGCACGC	AGGCAGGAGG	TGGTTATAGC	AGCTCAGGCT
15001	CAGGTCAAAC	CAAGGCTTCT	TGCTGGGGCA	GAGGGGACTG	ACTCTGTGGT
15051	GCAAAAGCAG	GTAGTATATA	TATATGTATA	TATATACAAA	GCCCAGCTAC
15101	CAGCTGAGAG	TCCCAAGGCT	GCTGCAGTAG	TTTTGCAATG	AGCACACAGG
15151	AAACAAGAAG	ATCGCTGAGA	ACACTGCTGA	AATCAGATTT	CTGTCTTCAC
15201	ACAGGTCAAG	CTGATTTAAC	TGTTTAAATG	AATTGCTGCA	GTTGCTTGGA
15251	AAAAAAAAGA	AATAGTAAAA	CCATGTCCAA	AATGAACCAT	TCATAACTGG
15301	TGGCCCATTA	TGTGTCACAG	CCGATGTTGT	GCTGAATAAA	TAAGTGTACA
15351	GGTATTTTAT	ATATTGAGCA	ACATATTTAT	TGAAACAAAA	ATAATTTACC
15401	TCAAACCAGC	GGTAAAAGGA	AGTCTTTACT	GTCTAATTTA	AATAGGCATA
15451	AGTTAAACTC	GGGACTGAGA	TGATCTTGAA	TTTCATTTGG	TGCCCATGGT
15501	TCTTTTTTATG	TGGTACACCT	GCTTACACTT	ACCATCACAC	TGGAGCAGTT
15551	TGCTTTTGTGC	ACCCGAATGT	CAGACACTGC	TATAGATTTA	CAGTAGCTTG
15601	GGGGGGCTGC	AGGTTGGAAG	AGGGGGTTGA	GGCCTCATCA	AGTGCCATGG
15651	CAAAACACCC	TCAAGTAAGC	ACGGCTGGAA	GCAGGAAGGA	TGAGGGAATG
15701	AGCTGCCATT	TCCTTTGCGC	TGGAAGGATC	ACTGCTAAAA	CTTGTAATAA

15751	TCTGTTAGAA	ACAAACAGGG	ACGTTCACTT	TGTCCTGTGA	TGCAAGAGCA
15801	CCCATTCTGA	ATTTTTATCT	CCTGCAAAGT	TGTATTTAAG	CTGATGTTTA
15851	CCGTGGACGT	TCGTGTTACA	AGATAGCCTT	TGATACTATC	AATAACAAGT
15901	CCTCTTTGAT	GAAGTAAAGC	TACAGAGTCA	CAAAGCATGC	ACTTGTCTGA
15951	CCCTTTGCCT	GGCTGCCTGT	CCAACCACGT	TGCACCACTA	CACCCAGCCC
16001	CACGAGACCT	GCTCCAGGGC	CAAGGGAATT	GAGCACTTAA	GGGAAAGTGC
16051	TTTGTACAAA	ACATGGCGCT	TATGAGTTTG	AAAACGTAGA	TCCACCAAAA
16101	CCTCCTCAGG	CACGATGAGT	ATATTTTTTC	TCCACTACTT	ACAGCGCTGT
16151	GAATTCTAGT	TAAGGGCGTT	TTGATTCCCTA	AAGAATTTTT	CCTTCTAATC
16201	ATAGACGTAC	TCCAGTCCTT	ATTCCAGAAG	GCTTACTCCT	TGTATTTTGA
16251	AGGTCTTATC	CTGAAATTGG	GATGCAGAGC	CATTCTGAAA	ATGACAGTAT
16301	TTTAAGACTT	TGCTGCACTT	ACTCTGGCTT	CCCACATACC	TTCTCTTGC
16351	AACCTTCCAC	CTCCCAGAAC	TGCAGCCCAG	CCTATCCTCC	TCTGCCAGAA
16401	AATCGGATCC	CACAGGCCCT	ATCTCACACC	TCCCGGTTCC	CCATCCTCAT
16451	GGCAGCTGCC	CTCTTTCCCA	AGGCACTCTA	TGGAGCAGCA	GAACCTGCTGA
16501	GTGCACAGGG	CAAAGATCTG	CCGTCCGAG	AGAGCAGAGA	AGCATCGCTC
16551	GGGAATCACT	GCACTGCTGC	AGCACTATTG	TATTCTGCCT	TTATTCAGAG
16601	GCAGTCCTTC	ACCTATGAAT	ATCACTACTA	CCTTACTGAA	TATATATTTT
16651	CAGGAATATT	TTCACTTTTT	AGCCAGATAG	GAAGCGGATT	TTGTAATTAC
16701	CCTTCCAGCA	ACTTACAGCC	AATTACTGTC	TCTCCTCCTG	ATTCTGTCC
16751	AGCAATTTGG	TTGCAGTTAT	TGCTTCTCCA	GAGCGGGCAG	AATTTTTTGC
16801	TTTAGGAAAT	GTACACCTCG	AGGTAATCTT	TGAAGAGTGA	CAGGTTCTAA
16851	AGTTCACAAG	TTTGATCTGC	TTTGGGATTA	AGCTACCTGC	TAAACTACCA
16901	CACGCCATCC	AGTCAAGCCA	TTTCTATTAT	GTGCGTATGG	CTGATTCTTA
16951	TCACAAAAGA	TCAAGTTAAT	GATTTGCAGT	CTTCGGCAAG	CCTCTGGTTT
17001	CTTTGAACTT	GCTTTTTGTA	AGCGATATTC	TCGGGTACTT	TTTGTGCTTG
17051	TGAAGCTACT	GCAGTGCTCT	GGAGATTTTC	TTTGTGCTCC	TGGCTGTGAG
17101	AGTTAGTCCAT	TTCTAGGCCT	GCTTGGCCAT	CCCCATAGCA	CGGGGAGAAC
17151	CGTACTTTCC	CATTGCCCTT	GTACCTGCAC	TTGTAAAAAC	GCTAGAGGAA
17201	CTGAAATTAC	TTCAAGTTCC	TGCCCTGTCC	TCTTTCAAAG	CCATTCTGAG
17251	AACTTTCTTT	GCACAACCTT	TTTACAAGAG	TAAATCCGT	TTCTAGTTCC
17301	AGGCAACACA	CTTGTCATAC	ACAGCGCTGG	CAAGGGACTG	CTGTTTATTT
17351	CTTGCTTGGA	TGCAATTACA	CAGCCATGTG	CCCTTGTTTT	CAGTCCCTGA
17401	TCCATTATCT	TTGGCATTTA	CTGCAAAGAA	GCTGCTGTTA	CGCAATGGAA
17451	ATTTAGATGA	TCTCTTTTTT	TTAGCTTACT	TCTCCTCTAA	CCCAAGAAAT
17501	GAGTACAGTA	TAGCCTGCTG	AATGCAAGGA	AACCTGCACC	TGCAAACTTT
17551	TCTCCCCACT	GCGTCACTAC	CAAATATGTC	AGAGTTGCTT	GTACTTCTTA
17601	AGTCTGTTTC	CATCCCCTAA	TGGCACGAAC	CGTTGCCCTC	CTGTTGTGAG
17651	ACTGCAAAAA	GGCCAGCTTG	TACAGATTTG	CCCTGTAGGT	TTGAATGGAA
17701	GAAGGGAAAA	AAATCAGAGA	AACTGCCAGC	TTTTGTTCTG	CCGCTTGTA
17751	GCTTGCTTTG	GTAGAAAAGT	TGAAGAAATA	GGAACATGCT	TTGAAATAGG
17801	ATTTTAAAAAG	GAATCAGCTT	CTTATCTTCC	CTTTGGGAAA	AAATAGTGTG
17851	AAGGACAGAA	TAAATCAGAC	GGAAAAAGAA	AGAAATTGAC	GTAAGAGAAC
17901	TAGTCGGGCA	GAAAGGAGGA	GGTGGAAAAT	ACCCAAAAGC	AGCAGGAAAG
17951	AGGGAGGCAC	AGGTTGCCAA	TTAACACTTC	GATCAAAGGA	AAGGCCCGAT
18001	CAAAACCTTT	TTCTCCTCT	AAGAAGCATC	ACCCCTTCCC	ACTGCTTACT
18051	GCAATGAAGC	GAGCTTTTAG	ACTAAGACTC	AAGAGAATAA	CCCCAATACC
18101	AGTAAAGCCT	GCAGAACTTG	TTTTTTTCAT	AGCTGACACC	ACAGACAAAC
18151	AAACAAATAA	ATAAATAGTA	GCGCAGAGCA	TCAGCACCGT	GGCAGTCATT
18201	CCAGCAATCA	CTTCCCCACC	GTGCTCTCCT	ATAGGAGAGC	TGCAGCACAG
18251	GTCAGCGTCT	CCCAACCCGT	GCACTTCTTC	ACGGACAGAT	TTGCATCATG
18301	CAGACCCTCA	GATTGCCCGA	GAAGAACAGA	ACTGCAATGC	CCAGAAAGAG
18351	TGTGGAAGCT	CTGAGAATTT	ATCTGCCTGC	TGGACAGAGC	CCATCTACAC
18401	CTGGAACAAG	CGGGCACCTC	TCTGTGCTAC	CAGTGCTGGG	TAAAGAAAGC

18451	TGTGCAGCAG	CTCCTCCCTG	AACACTGGCT	ACGTTGTGAC	ATCAGCCCTG
18501	TGGTTCCTGT	GGCAGCTCCT	GCGCTTCTGC	AACTACATGA	GTCTAGCTGG
18551	CAGGCCACCT	GCTTGTTTCC	ATATCAGCAG	CAGCCACGTG	CACCATGTGC
18601	ACCATGTGCA	GGGGGCCTCC	AGGCAGGTAA	AAAAAACAAA	CAAACAAAAA
18651	CATCTCTTAA	TTACAGGGGC	AGAGCAGGGC	TGGATACGAA	CAAACAAAAC
18701	CATACCAAAA	CAAGCACACG	TGTAAAGAGG	AAAAAAAAAT	AAAATAAATC
18751	ACAGCTTTGC	AGTTTGTCTG	TCTTCAGAGC	AAATCAAGGC	TGTGATTAAT
18801	TCGTTACACA	TCAGAACTCC	AAGCAGGCTC	AAGCTGAGCC	GTTGCAACTG
18851	GCATTATGAA	TGGCACACTT	GAAAAACAGC	CAGGTTGCTT	TCCAGATTCA

CR1 - GG

18901	TGGAATCATA	TCATAGAATC	ATAGAACGGC	CTGGGTTGAA	AAGGACCACA
18951	ATGATCATCG	AGTTTCAACC	CCCCTGCTAC	GTGCAGGGTC	GCCAACCACC
19001	AGACCAGGCT	GCCCAGAGCC	ACATCCAGCC	TGGCCTTGAA	TGCCTCCAGG
19051	GATGGGGCAT	CCACAACCTC	CTTGGGCAAC	CTGTTCCAAG	ATGTTAGCTT
19101	CTCTAAATC	TTACCACAAC	ATAATAATGA	AAGAATATTT	AAAAAATCCG
19151	TGATGGGTAG	GAACCTCCTG	GCTGCAGCCT	GTGCTCCAGC	CCTCAGGTGG
19201	TGGAAGGAAA	TAATCATTTT	TAGTTGGAAT	TTTCATTTTC	TTTTTTTTTT
19251	CCTCAGCTTT	CAAGTAGGCA	AACAATTCAC	TTGTCTTCCA	GAGCTCAAAT
19301	CACTGCTGTA	AGTAACAGTT	TTCATTTGTC	ATTTTTATTT	CCTCTGTGAG
19351	ATGGTGATAT	TTATAGCAAC	ATTCTCGGTC	CCTTGCTTGG	ATGACTTGTTG
19401	ATTGCTACGG	TTCTTGTAAC	AGCATTGCCA	GAACAGTAGC	AAAAGGCAAC
19451	TGCTCCAGCA	CCGGTTTTTG	TAAGCCATTA	CCTGTAGACA	CTCATCTGCC
19501	TACAGTAGTA	TGAGTCAGTG	GAAATTAAGT	TTTATAGTTT	ACAGACCACA
19551	TGTGACACCG	AGCATGTTTG	AAAGCAAAGT	CCCTGCCTTG	AATAGCTGAG
19601	ATTTAAATTA	GCTGAGGCAG	CAGAGGAGGA	GGGAGGGCAA	GCAAAAGCAG
19651	GTCTTGCCAA	TCCATGGCAT	GGTGCCTAGT	GATAGGTCAC	CAAGCAGGAA
19701	AGAAAACCCA	ACCCTGGCTT	CATTATCAAC	ATCAGGCCTA	TGCTCAGGTG
19751	CCCGTCACTT	ATTTCTTGAG	AAGTCTCAAA	ACACGACCAA	CACCTGTTTG
19801	AACTCCTATA	AGAGAGCTTA	GCGCCTGCTA	TGATGCAGGT	AGGATACTGA
19851	TGTTTATTTT	CATTACTAGT	GCGTGACACA	TCCAAAGAAA	TTAGCTGTAA
19901	AATGTCTAGT	ATTCCTGCAA	AAGAACGTAA	CAGATCCTGC	ACGTGGCAGG
19951	TACCATGCAC	AGATGGCACC	AACGGATGGA	TGCTGGCTTC	CTCACACGTT
20001	GAGTTGTTGT	GGAGTTGCTC	TGATGAAGGG	GAGCAGCATT	TGTGAGCATT
20051	CATTCATGGA	GCTGGAGTCT	CCTAAGCAAG	GTAACGAATG	CAAAGGTGGG

CR1 - GG

20101	AGTGTTC AAG	TGGCCTAGGC	AGGCTTGGGC	AGTGAGCCCA	GGTGAACCTC
20151	ATGAAGTCCA	ACAGAACCAA	ATGCAAGATC	TGGCCTCTGC	ATTGAGGCAG
20201	CTCCCACTAC	CAATACAAGC	TGGGAAAGGA	CTGAGTGCAG	CCCTGCTGAG
20251	GAAGACCTGG	GGGGTATTGG	TGGTTGGGAA	GCTGGACATG	AGCCAGCAAT
20301	GTACCCCTCAC	AGCCAGAAA	GCCGACTGTA	TCCTGGGCTG	CATCAAAAGT
20351	AGTGTGGCCA	GCACAGCAAG	GGAGGTGCTC	CTGCCCCTCT	ACTCTGTGCT
20401	GGTGAGGCCT	CACCTGGAGT	ACTGCATCCA	GATGCGGAGT	CCTCAGTACA
20451	GGAGAGACAT	GGACCTGTTG	GAGCGCATCC	AGAAGAGGAC	CACAGAAATG
20501	TTCTATGGAA	TGGGACACCT	CTCTTACAAG	AACAGGCTGA	GAGAGCTGGG
20551	GCTGTTTCAGC	CTGGAGAAGA	GAAGGCTGTG	AGTTGACCTG	ATAGCAACCT
20601	GGCAGTATCT	AAAGGGCAGC	TACAGGAAAG	AAGGGAACAG	ACTTTTTTAAG
20651	CAGGGTCTGG	TGTGATAGGA	GAAGGGGAAA	TGGTTTCAAG	CTCAAAGAGG
20701	GAAGATTTAA	GTTAGATATA	AGGATAAAAT	TTTTTACAGT	GAGGATGGTG
20751	AGGCACTGGA	ACCCAGCGTT	GTGGTTGAAG	CCCTGACCCC	TGAGACTTTC
20801	AAGGCGAGGC	TGGCTCAGGC	CCTGGGCACC	CTGATCTAGC	TGTGGTGTCC
20851	CTACGCACTG	CAGGGGAGTT	GAAGTAGATG	GCCTTCAGAG	GTCCCTTCCA
20901	ACTGCAAAAG	TTCTGTGATT	CTAGTAAACA	GAAAGCGTAC	AGAACAGTGA
20951	CCTAGTCAAA	AATTGACTAT	CGAAAGGGCG	TGTGGGTAGA	GGTAGGTCAGG
21001	CAAAACTGTA	ATTAGGTCAA	AGAAAAATGA	CAGGACAAGC	TTATCTAATA

21051	TTTGGGATGT	CAGTAGCCAA	ATGCCAGTAC	AGAGGATGAA	CAGCAACCAT
21101	TAAGAATTTT	TTACACAGGT	AATTCTGACA	ACAGAGAATT	TGGGGAGTAA
21151	TAATTGAAAT	ATTATTGGTA	AAACGGTATT	TTTAAAGAAA	AATCAAGGTG
21201	AGAGCACAAT	AGCTACAACA	TAGACTACCC	GCTCAAGAAT	AGAAGGAGCA
21251	ATGTTTTGAT	AATAATAAAG	TAGCTGTTGG	AAAAGCAGCA	AAATTGGAAG
21301	CAAACAGTCC	ATCAAGTGCT	TGCAATAGGT	TATGTAAGTT	GTGTGAATGG
21351	CTCTAAGTCA	GCCATGATTA	CTAGGATGAA	TCTGGTTAAG	ACAAACATGT
21401	ATGGAAGCCA	ACCATGAAAC	CACGGTCATC	ATTCTGGAGG	AAGGAAGAAT
21451	TATGCAGCAA	AATCAAGGCA	TTCTCTGCATA	TTTCAATAAT	TCAGAGCTAT
21501	TAAAAAGCTC	CCTGTCACGA	TAATCTTCAG	AAATAATGTG	AAAAAAATAC
21551	ATAGCGGAGC	AAATTTTTCAT	TAGGAAGACA	ACTAAATAAA	CACAAAAAGT
21601	AGATCAAAACA	ATGGCTCAAC	AGAATATTTA	AAGCAGTTTC	TTTGCTTCAG
21651	CTGCCAAAGA	GCAAACCTACG	ATCAGGTGCA	GCTGACTGAT	AGGAGCACAA
21701	AAGCTGATTC	AAGGGTATCT	GCCCAGACGA	CGTGTGCGAC	TGTTCTGCTC
21751	CACTCAATTA	AACAAAAGCA	CTCAACTCAA	CTCTGAAGGC	TAGTAGTTGA
21801	ATAATAATAA	TAAAATCAAA	ACCAAACAAA	CCTTACCAAT	CTCTAAGACA
21851	GACAAAACCA	GTACTTAAAC	CAGGGAAGGG	ACAGAACTCT	GGATTTCAGAG
21901	ATTAATCAGG	TGACGTGGGC	AAAGATACAG	CCAGAGAATT	TAATGAGTTT
21951	TTCTAACTCT	ATGAAAATAT	GTGTTGAGAA	AATCCACTGT	TAGTCAATGG
22001	GAAGAAACAT	CTGTGAAGAA	CAAAGCAAGC	AAGCACAGAC	ACAACCTGATT
22051	TAAAAACTAT	TTTACCCACA	GAACATAATT	TTTCATACTG	CAGTCAGAGG
22101	TAGCAATAGC	ACTAGAAGTT	AGGAAAAAAA	CGTAGGCCAA	GTAGTCAAAG
22151	ACTAGTCACA	GCTGGCAGCA	TGAAAAGATAT	GCAAGTAATT	TATCCAGTGC
22201	TTAGAGGCTG	TGGTTATATA	AAGCAAATAT	AACCTTTAAT	CAACTATAAA
22251	CCAGGCAGCA	TTGTTTAGAG	TACATAGGTT	GCTCTGAAAG	TAACGCCTCC
22301	TATTTATTTT	CACAGAAACT	ACAACTGATA	CGAAGAGCAT	AACAACACTG
22351	ATAGACATA	TTCCCAGCTA	CAAAACACTA	CTTTTCAACT	CAGTCATCAC
22401	GATTAGCTCT	GCATTTTTGC	GACCGATGAG	TGAGAGCCTG	CATGCTACGC
22451	GCACAGAAAT	CTGCACCAGT	GGAGGTGCCC	CACCGTCACT	GGTGCTGAAA
22501	TGCACCACCC	ACTGCCTCAC	CGCGCTCACA	TCCACTGCTT	GGTCTCCATA
22551	AATATTCAGC	AAGCATTGAT	GAATGTCAAG	AGGTGTAATT	TTTTCTGTGT
22601	GGAGGAATTC	AGTGACACCT	CTGCTTCATT	TGCGCTTCCA	GCCAAATGCC
22651	ATTCTGTCAT	GCTGCCTCTC	TGCTGCCATC	TGTCGCACAG	CCAGAGCACA
22701	TAATGGAATA	CTGGTAGGAA	GGTTCAACCA	CTACCGCCAT	ACCACCAATG
22751	ACACCTTGGG	CTGATGATAT	ACTAAAATAA	ATACTACCTT	TGGGGTAGCA
22801	CTCATAGTTT	AGGTAAACCC	TGAAAACCTGA	AGTAAATGAC	ACCTCCCCCT
22851	ACCTCCCGCA	GCCATTTAGC	TACATCTTCT	GGGATAACTT	AGCTAGGAAT
22901	CTGTGATAAT	ATTTCAACTT	ATCCTCATTG	TAGAAAAACA	GCAGAACAAA
22951	AGGTATTCCT	TAGAGCTGCA	GTTCTAACCG	GCAGTGTTTA	TTTGGAATAT
23001	TTCTAAAAAC	AACTTGAAAC	ACCAAACATT	AATGTTTCCA	TTTCCATGAG
23051	CAAGTAGCGA	GATGCAAGTT	TAAAAACATAC	AGTATATTTT	TCTACGTTAA
23101	AGATAAGGGA	TTACACAGTT	AGGTTTAGGG	AAACCCATAG	GACAAACTGA
23151	CCTACGACAA	CAACAAAGAA	ACGCATTTCC	TGAGAATTTT	AAGATTGCCA
23201	TAAGGACTGT	CATATAGGAC	TGTTATAAAG	GTCAATTAAC	AAGTAATTCA
23251	GGCAGTAGCT	TCAATCCTCC	AGGTGAGAGC	CCTGCCAGTG	CGTGGCTCGC
23301	TTCTGAAGTG	TTCAACAGAG	GCAACAGAGC	AAAGAATCCT	GCTGCAACTA
23351	AGATCAAGTT	TACAAACCAC	AGTAACTTGC	ATCTACACTT	GAATTTCCCC
23401	CGCTTGCCCA	CAAAGGTCCA	CAAAAAGATT	TGCAGCCCCC	TGAATCACAT
23451	TCACATTTTC	CAGTGCGAGA	CCGAAGTAAA	GCTGCAAAAC	TGAATGACTT
23501	TGGAAAGAAC	ATTTCAATTAT	GTTAGCAAAC	AAAAGCTCAG	CACCTTGCCG
23551	ATCAAAGAAT	TTGTATTTAA	GTGTTTTGTT	TAGCTGTCAA	ACGTAGAAAC
23601	AAAAGTCTAA	ACAAAAGTGA	TAGTTTTGAA	AGTAACACTG	AAGAAATACT
23651	CAAGAACATA	ACTGATGTTG	TACATTTTAC	TTCA'TTTAAG	TACAGCAAAT
23701	TTCA'CCCATC	CTATGATTTA	TCGAGTACGC	AAAATATGTA	CATAGAGGAA

23751	ACCAAAACCC	ATAAAAAGAC	AATCATCTAT	GTGCATATGC	GCATGTAACA
23801	TATGCACATG	AAATGTGCAA	TTTTCTTTTA	ATGCAAGTTA	AACAAAGCAT
23851	ATGCACAACA	GAGTTGCACA	ACCATTACAG	AACAGAGTGT	TCTGGGTATC
23901	CTCATGATGT	TTCGCATCTA	CAGCCAGTGC	AAACTTACAA	GGCACAAACT
23951	CAGTGCTGAC	ACCGTAGTGT	TGTAAGTTCA	GGCACATTTT	AATTTGTAGT
24001	TCTTAAAGAT	AATAATCAAC	AGAAGTGCTA	CTTCTGTACT	AAAGTGCCAG
24051	CCTCTTCCCA	AAGATTAAGC	ATTAAGTTGA	TGTAACCTGT	ACACAGTAAT
24101	GATCAGCGGC	GTTTCGGATTT	AACCTAACCT	ATCACTGCAA	GGTCTGTGGC
24151	TATATCGTGC	TATGCGCTCC	ACACCTCTGA	GGGTATGCTG	CTTCCCAAAA
24201	TGCCTCCCTC	ACACTCTTCA	AAGACTACCC	ATACCTCGCC	AGCCTTGACG
24251	CGTGGAATCT	TACAGGTTAC	TACTCAATGC	TTTTTCCTAA	CCTTAGCCAA
24301	ACCTCTGATA	AAACCAGACT	TAAAAAATCA	GCCATCGGGA	AATCTTTCGC
24351	ACACTTGCAAT	TTAACAAACC	TTTGCTCAAT	TGCATAGTGA	CATGTGTATC
24401	AGCTAGGAAA	GAATTAAAAA	CAAAAGCTTG	CTGCTTAAGG	CAAAAATTTT
24451	TAACACAGCA	CAGCAGAAAA	AGCCAAATAC	CGGGTTCATC	AGTATTTAAA
24501	CAAAGCACTG	GCTCATAACG	TCTTCTCCTC	ACAGTGTTTT	CTTCCTTACT
24551	TTACACAGCA	ACACACACAG	TATGCTCAAT	TAGCAAATTT	TGTTGCATTT
24601	CTCTAAACGG	AGTGATTAAC	ACATAGGCTG	ACTGCTACTG	AAAACACCTG
24651	ACAAATCGCT	TCTCTTGAC	CCTCAAAAAA	GGGTTTCTTT	TTGAGCCTAC
24701	CAGAAGTTGA	AAACCCGCTT	GCGCCAGGT	CTAATATAAC	AGCTAAAACT
24751	GATCATTTAA	AAATTACAAA	TATTTACCAT	GAGTTGCCAC	ATCACTCTGC
24801	TAAAATTGTG	TTTTCCGTAT	TATTTTCCAA	TAGAAGACAT	TTAATAGACA
24851	TCTGAAGAAA	ACAATACAAT	ATAAAAGCGT	AAGGGTCTTT	GCAAACAGAT
24901	CTTCTATTCC	TTCTGCAAAG	TAAGAAAGGA	GAGAGTTTAT	TGGCATTTAT
24951	TTGCAGTGCC	ATCGATAAAG	ACACGAGAAT	ACTTAAGAAA	GCAAAAAGTT

R gene exon 9

25001	CTAGTGATCC	ACAGACATCT	TTGGCTTAGC	CTTCCTGACC	AAAGTCTTCT
25051	GTAAACTTCT	TTAACTTCTC	CAGGTCCTGC	TCATTAACTG	TTGGCTTTGT
25101	GCTAGCTAGC	GACCTGAGCA	TATCGGCCTG	TGAGAAAGAA	AGCAAGAAAA
25151	CATGCATTCA	GAAAACGTAC	CGCTGCTAAC	AGTATTGCTG	TGAAGAAAAG
25201	TAAGCTTTGA	AAAGCCTTTT	AAAACAAGTT	GACTGTAGGA	ACTCTTATTG
25251	AAACAAAAC	TCGAGTAAGC	CTGAACATTT	CTGCACGTGG	ACCACTTTTT
25301	AACCTCCTGA	CGATAGACAA	TTAGTGAGTT	TTTACAGGAC	TTAAGCCACA
25351	ATCTGAGGTT	CAGCTTTAAA	ACAATTCATC	CATTCAACAA	GTGTTATCTA
25401	CCACTGCTTA	CTGCAACAAA	CTGAGCTTCC	CATCTTACAG	ATTTCGTATTC
25451	CAATTCACTT	TTAAGGACAT	CAGGTTGAAG	TGGAAGAACCA	TCACACGTTT
25501	CCACATATTC	CAATGCCCAC	CAACACAGAA	TACTTCATCA	TTGATCTCCA
25551	GCAAAGTTTT	ACTGCTCATG	ACTGCTAACT	TCTGTTTCTT	CAGCTCAGTC
25601	AGTTTTGTAT	ATTTACATTT	GGCTACTAGA	AAATGGAGTT	CAGAAAAAAA
25651	AACCACAGAG	GTATGAATCT	AAATTCAGCA	GTTAAGAAAC	CTTATTTAAA
25701	AAAAACGTAT	ATAAAAAGTC	CTGGCCAAAG	GCAAAGCGAG	GAGCTGCTCA
25751	ACACCTCACG	TTACTATAAA	AGCACAGGGT	TAAGTTAAAG	TCAGCATCAT
25801	GATTTTCTAG	GCTTTCTCAT	CTCATCGTAC	TACAGACATC	CTACTTAGAA
25851	AGAATTCAAG	TCTGATCTTT	TTAATGACAA	GAAGTGAATC	TGGACTCTGA
25901	AATAAGTCCC	TGTGCAACTG	TAGCACATCA	GAGTCTACCT	TCCATTAGAA
25951	GCACTGAAGG	AATTGTATTT	AATTCCAGGA	AAGACTGATG	AAAAATCCAC
26001	TTAGTTTACA	CAGGCAGAAG	TTTTAAGGCA	GGCCTGCACT	TGCTTGCATC
26051	TTTTTCATGCC	TCCTCCATGT	GCAAAATATG	AGATATTTCT	CTCCTCAAAC
26101	TAGTGATGGT	TACATGTGCA	AAGCAGTGCA	CTCTACTTTA	GAGGGTTTTT
26151	GATCCCTATG	CAACACACCT	TCCTTTCATT	CATTACAGAA	ACGTTTGCAC
26201	ACAGCAATGG	CCATCAGCAC	AGATCTGATA	TCGAGTCCTT	CCTTCAGACA
26251	ATGCAATTAC	ATTGAGAACC	TTTTGCTGCT	TGAGGGTAAA	ATATACGAGT
26301	GCTCAATGAT	TTGTAACCTT	TTAAACAATG	TATTTAAACT	TCAATTTCTC
26351	TCAAATATGA	TGTTTTGGTC	TGTAGACAGA	AGCAAATATT	TTAACATATA

26401	CAAAAAATTC	CAGCTGAATG	TTAGCAAGAG	CTGGCTGCAT	CATCTGTGAT
26451	GAAGTATAAT	CCAAACTACC	ATTGCATCCA	CCAGCTTTTT	ACATTGCATT
26501	GGTTATGCTT	GCATTTCTTT	TGTGGGCAAA	ATTTACCTAC	AGCATGTTAT
26551	TCCCAGTTTA	CAGTGAATAT	AATTTCCAC	TTCTCGATGT	CAATAATAAT
26601	GCTACAGAGC	AACAGGAAAG	TAACATATCG	TGGGGCAGGG	ATTCTGAAGG
26651	TTTTAAATGA	ATAAAAGAAA	AATTAAGAA	GGGAGGAAGA	TTCAGGTGCT
26701	GTCTATACTG	CATGCCACTA	GACAATAATA	AATGCTTATC	AGGGATGGAG
26751	AGCTGGCTCG	CTGATAAGCA	TGTTGTATTG	TCATGCTGTG	TGTTGCGATT
26801	AAAATGTCAT	CCAGTATGTC	CAAGCATGTC	TAAAAACAAA	GGGCTCAGCC
26851	AATTGCCTTG	CATGCTGGCT	CTAAAATGTC	TTGAGTATTT	TCAGGGTTCT
26901	GCAAAGCAAG	AAACACCACC	AAAAAATAAA	AAAATAAAAA	CAAATACCCA

R gene exon 8

26951	CCATGGAAAC	TTTAGGCTCC	AGTAATTTAT	CCCCTGGAAC	ATCCATCCAT
27001	GTCATTTCTT	CAGCTTCAGG	ATCACCTGGA	GAGCAAGGAG	TGAACAAATC
27051	TACCATGATA	TTTGGATTCT	TCACCTGATG	TCCTTTTACC	TAATAAATGA
27101	ATACATAAAT	AAATAAAATA	AACAAACTGA	AGCTGAACAT	CTTTAGAGCA
27151	AAAGCATACT	CTTAATTTTC	TGTACATGCC	CCACCCGTTT	GGAGTTGTGT
27201	AGTGAAGTGG	AATTGTGTAA	AGGTGCTGGC	ATCGTTCACT	TGAAAACGC
27251	ACAGCAGTAG	TCAGATACTT	GAATCATACT	CATGTCAGAA	CCAATGAGCC
27301	TTTAAGGTAG	GAATGCTTGT	AGAAAGCTAA	TGTGCCAGGT	CTACTGTTTG
27351	GAGAAGACCA	CTCTCTTCTT	AGTCCTCAGT	CACTTTGGGA	GTCCATTACAC
27401	CACTGGTTAA	CATTTCTAAA	AAATTCTCAG	TAGTTATTAC	TGACTGACCC
27451	TCAAGTTGGG	CTGCCATGGG	TGTCCCTTTA	AGCTTCCACT	CACTGCACTA
27501	AAAAGTTCCG	GGCACCTTTT	CTGACACAAT	CTCTAACAGC	ACTTGATAGA
27551	AGATGGGGCC	ATCTAGTGGA	GGAACAGAAA	CCATCCCTTC	TTCCAGATAC
27601	ATAGACAGAA	CCTGAAAAGC	TCCATCAGCT	GCCTCTTATC	TTTTTGCAAT
27651	GTATATCTCA	GACCTGTAGT	TCTACCATCC	TTCTTTTGTC	AGTCAGTAA
27701	GCATACACAC	TCCCATGAA	CACAGAACAC	ATGCAAAGGC	GAAAAAGAA
27751	CTGCTTTTAA	CAGCAGAGAA	CTGGATTGTC	TGTTTCAATC	TGCTTTTAAA
27801	GCACAGCGAA	GAAAAGCATG	GATTATAATA	CTGGAAACTC	AACTTGGACA
27851	AACCGCTATC	AATAGGCTGG	AACAAGCAAT	GGGTTACAGT	GAGTTACAGA

CR1-GG

27901	AATTGAGCAA	AACGCTACAA	ACAGGAGGCA	GGGGCAGATG	GCGATTGGGA
27951	CAAGGGGGAA	TAGTTTAAAC	CAACAGAGGG	GAGATGTAGG	TGAGATGTTA
28001	GGAGGAAACT	TCTTACTCAG	AGGGCAGAGA	GGCGCTGGCA	CAGCTGCCCA
28051	GAGAAGCTGT	GGTGCCCCAT	CCCTGGAGGC	GCCCAAGGCC	AGGTTGGATG
28101	GGGCCCCAGG	CAGCCTCAGC	TGGTGGGGGG	CAGCCCTCAC	CATGGCATGG
28151	GGTTGGAGCT	GGGTGGGCTT	TGAGGTCCCT	TCCAACCCCC	AACCATCCCA
28201	TGATTCTATT	TAACTGGGAC	AAACTGCTAC	TATGGAAATA	GTTAATAAAG
28251	CAAAGGTTTT	TCTTATAAAA	ATAAGAATCT	GCATCCAATT	AAAGCACAAA
28301	CAAAACAAGT	GGAATAGACT	TGCATCAGAA	CACTCAAAGC	ACGGTAGGCT
28351	TTTTTTCCTT	TTTGGC AAAA	GAGGTAAGAA	TTGCCTTTGG	CTGCTCTGCA
28401	AACTGTGGTA	ACTGAGATTA	TTTCATTGTT	CTGTGGCAGG	CTGAGGCACG
28451	CCTCAGATGT	CTGCAAATTT	CAATGAAAGG	CTAAAATGTG	ACAACCCATT
28501	GGCCAGAAAT	GCCATCATTG	TATAAAAACA	ACAATGGATA	AATACTTCAG
28551	GCATCACTGC	TTAAGGGAAG	GAATAACCCA	GAAAATCCCT	GATATATCAA
28601	AATAGCCGCT	TATTTTTTAA	GCAAATACAG	TTTACAACAG	CTCAAAATAC
28651	TGTTTCAAAA	TGTTCTTTGA	TTTTAAACTG	GGAAAAGTTC	ATCAAAATAC
28701	CTACCAAATA	TTCTTCCTCA	CCACCAAAAT	TACAGACTGC	TGGCGTATTT
28751	TAACAAGTTG	ATAAGGCTTC	CTCACTGCAA	GCACTGGAAC	TTTAACAGAT
28801	CTCTTACATT	CTGAACCATA	TTGTATTTAA	GCGTTCCCTT	CCCTTGGTGT
28851	CTTAAGCTGA	ATGTGTTCCCT	TACAATTACA	TGGAGAAAAG	TGCCCACCTT
28901	CAGTTCACAC	TGACTCTAGC	TGTTTCACTG	AGGGCTCTGG	ATGAGTTACT
28951	GGTAAAAAAC	TAAGAAACTG	TCATCATAAC	TCATGAGCAA	CAACTGCTGC

29001	CAACACAAGT	TGCGTGTATG	ACACGCAGAG	CAATAAAATG	AAAGCTCTGA
29051	AAGCTTCCCT	TTCCAGAGTC	AAAAGTCCCT	GCAGATAACA	AGAATCCACC
29101	TTCACCTGAA	GTTTGTGAAT	TTCTGTGAAA	ACAAAGTCTG	CAGTACAAAT
29151	GTAAACAGAT	TATTTTAGTT	TCGCTCTCTA	AAACCAAAAC	AACAGCAAGA
29201	AAAAACTAGA	CAAGAAAAAT	ACTATCATGT	TATTTATAAA	ATGTAGGCGA
29251	AACTCCAAGA	TAAGCAAAAA	AAAAAAAGTC	TTATCTATCT	ATAGTTACAC
29301	TCTTTT TAGA	CATCAACTAA	GTGTAAAGTA	GTTTTCACTC	TACAGCAGCA
29351	TCCATAAGAT	GTTCCCTTGCT	GCCCCAGCAA	TGACAACGAC	CTTACTCAGC
29401	CGTCTTGCAT	CTTAACTACT	GTGACAAGTA	ACATTAGGGG	ATTCAATTTT
29451	TTACTGGAAT	CTTAGGATAA	TCTTAATTTT	ACAGTTTGAA	GGACATCCTG
29501	AGCAAACAGT	TGTGCAGTTG	TAATTCCTCT	GTTCCACCGT	AGATAAGGAA
29551	TACGTTTATT	TACACACATG	CGCTAGAAAA	ACAATTACGT	AATTTGATAT
29601	AGAAGAAGAG	CACCACTGTA	AGACTCCGAT	TTAAGTTGAA	CTCCAAACCG
29651	AATGCTTTTA	ACAGCAGTTA	TAGACGTGAA	GATTGATTAG	AGCTTGGATT
29701	ACACAACATG	AATACCTAGA	GATGAGGTGC	ATCAACTTAT	GGCAGGAGTA
29751	CTCCTTTGGT	AGGTAATGAA	GAACAGCATA	CACACATCTG	TAAGCACACG
29801	GTATTACCCC	AAACCGAACT	TGGCTTACTT	ACAACAAGTT	TTCAGATCAA
29851	GTTAATTCTC	AGAGTTGAAG	CAATATGAAA	AACGTTTTGT	TTTTACTTAC

R gene exon 7

29901	TTTTTTAAAG	TGAGTAGCTG	ATTGCACTTT	TCTAACAGGT	TGCATCAGTG
29951	CATCGCGTAC	AATGATGCTT	ATATCTGCAC	CAGAATAGCC	ATCGGTTCTT
30001	TTCCCAAGCT	CCCGATAATC	TGCTTCTGTT	AGGAGATTGG	GAGTCGACCC
30051	GAGGTGAAGT	TTGAACATGG	CAGCCCTGGC	ATGGTCTTCA	GGTAAAGGAA
30101	TATAAATTCG	CTTCTCAAAC	CTGGTTTCCA	AAAGATAAAA	GCACTGGCTC
30151	ACGCAGGTGC	ACGATGGAAA	GAAGTTTATG	CAAATCAGTA	TATACTTTGT
30201	TTGTAAATGA	AACTGCTTTT	TTCTTATGTA	TTATAAATGT	TTAAAAATAT
30251	ATATCTCAGA	TATTCTGCAG	CCTGTTCTCA	TAAGTAATAC	CATGGCTATC
30301	ATAAGCTAAC	ATCTACAATT	TAACAACGAC	TTCCTTTTTA	TGACAGAAAG
30351	TCTCTTCAGA	CTGTAGTTTC	TCCAGGTTCA	CTCCAGAGAA	GTTTGTTTTA
30401	AAAGAAAATA	ACTGAAGGAA	AAGGAGTCTT	TTAGTTTTTA	AGTACATCTG
30451	AACAGTTTTT	ATAGAATCTT	AGAATCGCTA	AGGTTGGAAA	AGACCCACAG

CR1-L

30501	GATCATCCAG	TCCAAC TATT	CACCCATCGC	CAACGGTTCT	<u>CAC TAAACCA</u>
30551	<u>TGTCCCTCAA</u>	<u>CACAACATCC</u>	<u>AAACATTCCT</u>	<u>TGAACACCTC</u>	<u>CAGGCTCGGT</u>
30601	<u>GACTCCACCA</u>	<u>CCTCTCTGGG</u>	<u>CAGCCCATTC</u>	<u>CAGTGCCTGA</u>	<u>TCACTCTTTC</u>
30651	AGAGAAATAG	TAGTGGTTTT	TCACACTCAA	AGAAAGAGCT	GCCCGATAAC
30701	ACGTTACACAC	AACCAGTTTC	TAAAGTTTGT	AAGTAGAGAA	CGTTGTAGTT
30751	GGAAACGAAT	TTGAAGTCTT	ACTCTCAATA	TAGTTGTTGG	TAGGAATGGT
30801	TGATACTTGC	GGTGCTTCCT	TTGAAGCATC	TGTTCTCAAA	GAGAGGACGA
30851	CCTCCCATCA	GGGAAATAGG	ACCGACTCCA	AGTTCTGTAG	AACACTATTA
30901	ACTTCCTATA	GGTAAGTGGG	CCCAAGCCAT	GAAAAATTAA	TTCTGTTACT
30951	GCCACGCTCT	ACAAGCTCCT	TTAAGTTTTT	CGGACAAGAA	TGAGAGATAC
31001	TCGTTACACAC	TGCAAAGAAT	GACTTGAAAT	GTTAAGTACC	ACATTCGCCT
31051	CTTATTCTCT	GTATGAAACT	ACACATGCAC	AGGATGGAAG	CGACCTCTGG
31101	AGGCCACATG	GTTTAAACTC	CCCAGTCAAA	GCACGGTCGA	GTTGAATTAA
31151	GTACATCGAT	AAAATGACAC	TGTCACCAAA	AAGGATTGTT	TCTTTAGCCT
31201	ACAAAAATTA	CCATTATACA	GGTTGTATCA	TCATCACAAC	ATAATCACAT
31251	TTGTACAGTA	ACTGTGTTTG	TCCTTTGCTG	CTCTGCAACT	GAAAGATCCA
31301	GCTAATCAGA	TACAGATACA	AACGTCATCC	CATTAGAGAA	AGGCAGTTGA
31351	AACGTACACT	GAAAGATCAC	ACAAACTGTG	TGACCAGTAC	AGCAAAAACA
31401	ATGCTTCTGC	ATTACTTAAA	TTCTGTGAAA	TTACTCAAGC	TATCCAAGGG
31451	TTTGCTAAAG	TTGAAAACGA	TAGCTCTGCT	GCCTCTTACC	CTTCTGACTT
31501	GCTTATGTTG	TACCTTGCCC	CCCATGCTCA	CCAGGAGACC	AGTCAGCAAC
31551	GAAACACAAG	TTTTTTGCTT	AGTCAAGTGG	AATTAGCTGA	CTAAGAGATC

31601 AGACAGACTA CAAGATATAC ATAAGAGAGA ACAATCCACC ACTTAAGTGA
 31651 AGGGGATATT TGA CTCAGTC CACCTCATGA GACATGCCTG CAAGAATCAA
 31701 GTGGATCACT CACTCAAATA GCCTCAGGAT GAACCCTCAC AATAGTTGCA
 31751 AATTTCTTAG CATAAACATG AATACATCAA TCATAGGCCA ACATACCTTC

R gene exon 6

31801 TCCTGATAGC AGAATCCAAA ACCCAGGGTA TGTTTGTGTC TCCTAAGACC
 31851 AATATTCCTT CATTATCAAC ACCAACCCCT ATACCAAGGA AGAAATCATT
 31901 TCACCATTTA GAAAATAAAC AGAGACTGCC TGATAATGTT TTAGAACATT
 31951 TACAAAACGC AAGGGGGTAA AGCTGCACAT CTTTTTCACAT GTAAGCAATG
 32001 CATTTTATGC GTAGCTGAAC TCCTTTGATT CTGAAAACATA TTAAACTTAC

R gene exon 5

32051 CTTGCATCTG GACTAGAAAT TCCGTTTTAA TCCGTCTAGC AGCCTCGCTT
 32101 TCATTTTCAC TTCTTGACCC ACATAGTGAA TCTATCTCAT CAATGAAGAT
 32151 AATAGAGGGC TTGTTTTCTC TGGCAAGCTG GAATAGGTTT TTCACTAATC
 32201 TTAAAAAAGG AAACAGCTGC AGTTATCTTA TTGTACACAC AAGCAAAAAC
 32251 ATGCAACTTT GGATTATGAT ACAGTGACTT TGTTAAGAAA AAGCTAAAAG
 32301 TAAAAAATAA AATGAATCCC ACATAAGATA TTAACAAAGC TACTCAAAGA
 32351 TACAACATCC CTTCAGAACT ACTAACACAG CATTAGGCTG AGATGCTGAG
 32401 TGAGATACCA CAGAATAAGG TAACTTTAGG CTTCTAGTC TTGTTAACAC
 32451 ATCTCATTGT AACATGCAGA GTGGATATAT CAAAGGCGCT CATCACTTCC
 32501 AACCCATATA TGCCCATCTT TTATGTCTTC AAGATTTTGT TTGAAAACAG
 32551 AATGTAGAAA AAAAACCTTC ACACAGAGGA AGAAACAACA TGTATTATCT
 32601 GCAGGGCTAC TGCAACAGAT GAGCCAGAAG GTGACAAGAA TCAAAGTACC
 32651 CCAACACTTC AGACCACTTT GTTGTACAAT CACAGCTGGG TTCAGAAGGG
 32701 CATTGATCAC CATTGTGCTG CTAATACCTT TGTCCAACT AGTTTTAAAA
 32751 ACAGTCTTGA GTGCTGAAGC TGCTGTAGCA CAAAATACAG TGCATTATGG
 32801 TACTTTTACC TGACACTGCA CTGAAGCAAA GAAACATCTA AGGTTTGCTT
 32851 TAACAAGACA CATGAACCTT CCTTCCATT TATTCTTTA GAGTGTCCCTA
 32901 TCTAGCTCTG AAAAATTAAT TTCCTCTTGA TAATATTTTC CTGGAACCTC

R gene exon 4

32951 GGAAACTCCA ACTTACTTCT CACTCTCTCC TAACCACTTT GAGACCAGGT
 33001 CAGAGGAAGA TACTGAGAAG AATGTGGAAT TGTTGCTTC CGTTGCAACA
 33051 GCTTTTGCTA GATACGACTT TCCTGTTCTT GGAGGTCCAA ATAGAAGAAT
 33101 CCCTCTCCAA GGTGTTCTCT TCCCTGCAAG AAAGAAATCA GCTATCATCA
 33151 AAATGCTGTA TCAAGAGCAA GTCTATCTTT CTGATGAAGC CTCCCTAATG
 33201 TACTAAGTTT TCTGTATGTA CCTAAGAAAC ACCTGTCAGA TCGATCATTT
 33251 ACAGCTCAGC TGGAGCCTCT GATATAGCAG CATAATGCTC TTCTCAGACT
 33301 CCGCTTACAC TACTCACTTC AACAGCAGTA TTTAGAATGG GAAATAAATG

R gene exon 3

33351 CTGTAATACT GACCTGTGAA CAAGTGTTGA AATTTAATGG GCAAGATAAC
 33401 TGCTTCTTTA AGAGCTTCTT TGGCACCTTC AAGGCCAGCA ACATCACTCC
 33451 ATTTACATT TGGTCGCTCC ATAACAATGG CACCTATAAG AAAAGATTGG
 33501 ATAAATCACT GATACGTATT TTTCCACTGT TTGCTTACCA TATATTTGAA
 33551 AAAAGAAATC CACGTGTATG TTTACATTAA ATAAAAACGA GCCATTTCCA
 33601 CACAGATTTT AGCATCAAAC AGTGCTACTC AAATGGATAT TATTTCTACA
 33651 GAGATTTGGC AATCTTTTTT TCTTTAACCA CAATAAACCA TCAATAAGCA
 33701 GAGAGTTGTT AGAAGTTCTG CAGTGTGCAA ACTAACTCTG CAACTGCGCA
 33751 GAAAACATAC CAATGGCAGA TACAGAAGAG TACACTTCCT AAAAAGAGAT
 33801 CAACATGACG TACACCTGTA TGAAGCAGGC CCACTACAGT AGGATGCACA
 33851 GGAAAGCATG AGCAAACACC CTGCTGTGAG CACTCAGTGT AAAAAGAAAG
 33901 CCTGGAGTAG AGACCAACAT CAATCTGTAT TGCATCCAAA CCAGAAGAGG
 33951 CAAAAAAGTG TCTCACTAAG TTGCAGAAAA TGTGAACAGT TCACCAAGA
 34001 CGGATTACTG TGGAGAGAGT AAATATGTGC ACTTTTTATT TTCCCAATA
 34051 TGTCACCATT ACAAAGGAAA ATCATGGAAT GGTGGAGGGT GATGGAGGCC

34101	CAGCCTGGGG	CCCCAATACA	TGCAGCAATG	GACAGTGAGG	TCACCGACCA
34151	AGCGGTTGTG	ATGTCAGCAA	TGGAAATGAC	TGTGTCCTCG	CTAGCCCTCA
34201	CTGTACAGAT	TTGGGATCTG	GCAGAGGCCA	GCGTGTACTT	GTACCTGGAC
34251	TTCTACTGAG	CATAGCTGCG	AGACTCGGAG	CACTGAGCGA	GTTGGTTGAG
34301	TTGTGCTGTG	GGGCTGCTGG	CAGCAGTTCT	TGGTGCCAC	CCCCACGTAC
34351	CACCAACGTT	TCCCCCAGCC	CTGCCTGTCT	CAGGCAGCTG	GGGCCACACA
34401	GGGTGCACTT	GTAGCAGCAG	AGGTGAGTGG	TGCAGGACAT	GGCCTCTGCG
34451	GCGGCTGGTG	GGGAAGTGGG	AGGGTTTGCT	GCTGAGGGAC	CAGGACATCA
34501	CAGCTGCCTG	CCCATGGGAC	GAGTGACCAT	GGCCTCTCTC	TCTCTTTGCA
34551	GTTCGTAACA	CCTTCTGCCT	GCTGCAGTAC	CTGTGAGGGG	AGCAGCTTCC
34601	CGACCTCAGC	TCTCCCAGCC	CACCGCACAG	CCCGGGGCCA	TGGACGTGCC
34651	ATCTAACTGG	ACCTGCCCCA	TCTGCGGGCA	AATTCGGGAG	GATGTCACCT
34701	ATGTGACCCC	CTGCAAACAC	CAGCTTTGCT	ACGGCTGTGC	CATCTGGTGG
34751	GCAAACAAGA	AGCCGAGTTG	TGCCGTATGC	GGGCACCAA	TCACCACCAT
34801	CCGATACTCG	GTGAGGTCGG	ACGACGACTA	CCTCGAGTGT	GCTGTCCCGC
34851	AGCCCGCAGC	ACACTCTGAT	GATAGCCTGC	AGGATGAGCA	GGGGCCTGCA
34901	GAGCCGGTGC	TCATCCCACC	TGAGCACAAAC	TTCCCTGCCG	AGGTCTGGGC
34951	TGCCTTCTTC	AAAGAACATC	AGGGAGACCT	CGAGCCCCTG	CTCCACTGGC
35001	TGCAGGAGGA	GATCCAGGAG	GCGTCCAGCA	GTGACTGGTG	GGAGGTGGAA
35051	GTGGGACAGT	GGACCACTGT	CAACTTCCTC	TGCGAGCACG	GCCTGGACGA
35101	GGAGGCCTTG	ATGCGGGAGC	TGCAGCCGAT	CACTAACGGC	GATGTGCTGC
35151	CCTTTGTAAG	GCAGCTCATC	AGCACCGCTA	CAGCCCTGTA	CGGCCCAGCG
35201	ATCCGCCGCC	AGCTCGACCA	CCAGGAAGGC	CGTGCTGCAG	GACAGCGGGA
35251	GGACAGCCCC	GCAGCCAGCC	CCAGCACCAC	CACCTCCCAT	CAGGAGCCTC
35301	CTGCCTCGGG	CCTGGGCCAC	TCCACCAGCC	CCGCAGGGCC	CAGCACCAGG
35351	GAGCTGCCCC	GCAGCTCTAC	TGGGGGACCC	GGGCACCCCA	GCACCACCAC
35401	CGCGCCCTCA	GCGGAGGAGT	CGCAGGAGGA	GCCATGGCAG	GCGGTGGCAG
35451	CGGGCCCCCTC	CGCCCAGGGC	AGGGACCGCT	CGTGTGGGGG	GCCCCGGCGC
35501	CCCCCGAAGA	GGAAGGCCCG	CAGCAGCCCC	CAGGCCTCGC	CCCCACCTCC
35551	CAAAAGGCGG	CCCCGGCGGC	GGCGCTAGGC	TGGCACCGCA	CTGCCGTCAG
35601	AGCACAGCGC	CAGCGGGCTG	GGAGGCCAAC	ATCTACCTCT	CGGCCTGCTG
35651	CTTGCTGGCA	GAATAAACAT	CAGTTAAAC	AAAGAAGAAA	ATGTCTCTGT
35701	GTTATTGACA	AGACTCTTGC	TGTTGCTGTC	CCTACCCATG	CTGCTTTCTC
35751	TCTCTTCCGG	TCCTAGAGGA	GAGAAATGCA	ACTTTATTTT	CACCATCATA
35801	ATTACAGATT	CATGACAGTA	CTAACAAAGC	ACACATAGGC	TCCAAAAAGC
35851	CGAAGATGGA	CCCCTCATGT	TGCTCTAATC	ATAATCCAAC	CACCAGGACT
35901	TGGCTAAATT	CCTCTCCTAT	TGCCAAGCTC	TGGGCCACAG	ATTACTTCGT
35951	TTGATTTTAG	CTGCTGAGCT	GTGGTGTCCC	CCTCCCTTCA	GACTTCCCGT
36001	TAGTCAGTCT	GAAGATAAAA	ACTCTGTTAC	CAGATGACTT	TTAGATGGGA
36051	CAGCTCACAT	CTGAGCTAGT	GACCCAGCTG	CACATTTTGA	AACCCTACTC
36101	AAGACAAATC	CAAAAGGCAA	GAGAAATCTT	CCCAAATGAA	TTAATGCCAA
36151	CTACCCCAAT	GCTTATCTTT	CTGTACTCAA	GCACGGTGAA	CTGTTTCAGTT
36201	GCCATTTTTT	TCTACAAAGG	GCTTTCTATT	AGTTCACAAC	CAGTTTCTGC
36251	TAGCTATTTT	CTTGTCACCT	TCCCCTTGTC	CCTTCAGAGC	TCTGTGAATT
36301	GGTTGATGGC	CATTTTCTAC	AATGGAAAGT	GTACCGCTAC	TCGTGGCTAA
36351	CAAATAAAGC	AAGTGACATT	TGTTCACTTT	TTGTCCATCT	CCTTAGAGAT
36401	TTTTACTTTT	CCTGCACGCC	TTTCTCATCA	GATAGAAAGG	AATATTTTTT
36451	GCTTGCAATC	TATATACAGG	AATCCAGCCA	CTCACTTTTA	ATGCCCTCAA
36501	TACTTTTGCT	AGGTTGATTA	CAACTCAGTT	TTTCCTGTAA	CCAGGCTCCA
36551	TCATAAATT	AATTAGTAGG	ACAAGTAGGA	ACATGAGATT	AGTTCCAAGC
36601	TATCAGTTAT	GTGGACCTGG	CATACTGTGG	TAATTTAAAT	TAGCACACTG
36651	TAAGACATTA	CCCATACCAG	GAACAAATG	GAACAGGACA	TCGATCATGG
36701	CTTCCTCATT	TTGTAGGTGT	AAAAGAACAG	CTGGAAGACT	AAGCCAACAG
36751	AGCGCAAAAG	GTCTTTAAAT	ATCAAGCTAA	GCCACTTCTT	TTCTATGTAA

36801	AAAACACTG	CTAGCTGCTA	TATATTGCAT	CACTGGATGT	GTACAGCACG
36851	TTATTTCAAA	AACACAAACA	ATTATGTTAC	TCAACTGAGT	AACACCCCTT
36901	ATCACTGCAA	CACGAGGAAA	TCCCGCCTGT	TGCTATGAAC	AAACAAGAAT
36951	CCATCTTCCC	GCCTTATCAA	CTTGAGTTCA	AGCCTTCCTG	TGAAAATGGT
37001	CCTGCTTATA	CTACGTACTT	GGATGACATC	TGTTACTTGG	ATGACATCTA
37051	TTGCCTCTAG	GCAATAATAT	GTCAATGCAC	ATAAGAGTAA	AACTAGCACA
37101	GTCTAACAAA	ATAGCTATCT	GGGATCTTGC	AACTACTCCC	TTTGGGAAAT
37151	GTTTTCTTGA	TAAATGATCC	AATTTCAACA	TATGCACCAC	TGAATTTTCAT
37201	GGCATGCAAA	CCCATACTGT	CATAAAGACT	GTACTTCTGG	ATGTAAAGAG
37251	TATATACTAG	TTGAGCCACC	TAAAGACAAC	AAGTTAACTG	GCAAAACAAA
37301	CAAACAAACA	AACCCCCCAA	ACAAC TAGAA	ATTCACTTGA	CCAAAGTCAC
37351	CTCTATTTAA	ATAAATGGAG	GCTTCAAAGT	TACCTTGAAG	CTGATTCTGT
37401	AGTTTCTTTT	TCTCAGGATC	CTCTGACTCT	CCTTCCCCAT	CACTGTCATT
37451	CCTGATTTGG	AAACAAGAAA	TAAAAAGTTG	AAATACACTG	AGAAACTGCT
37501	GTCCTAGGTC	ACAAATCAGA	AAGCAGGAAG	TAGAAAAAAC	ATCACTTCGA
37551	GGAAATGAAA	ACCTTATGAT	TTTAGATTTT	TTCAGCTCTC	TACAAGTTTA
37601	CATCCTTGTA	GTCTTGTTTT	TCTACACTAT	ATTCTAACCC	CCCCCTCTCA
37651	CTGCAACCAT	TTCAACTTCT	TACAGACCCC	GAGCCCTTCC	TCTTAACACA
37701	CTTCTACATG	TGTTGACTCA	GCCTCTAGGA	AACAAAAGCA	TCGTGGAAGC
37751	AGCAAAATGG	CTTCACTGTA	GATGCTGGCA	CTTACTCCTT	GTCCAGAATT
37801	GCAACTGGTC	TTGGTCAATT	CCATTTAGTA	CTACGAAACT	CTCTAGTCTT
37851	GTCAGAATAA	AGGAAACTGG	AAGTTAAAAG	TAGAAAAAAG	TAGACGAGCT
37901	AGGGGACAAA	TGGAATGGAG	ACGTGTAGCC	TCATGTTTCC	TTCTACTATA
37951	AACCAGCAGA	ACACAGTACA	GCTCAAAAAA	ATAAAACCCA	TGAAATGAGC
38001	AGACAATGAA	AGAAGCTGAA	AATCAGGGGA	GGTTTCAAGA	GACAAC TGAG
38051	CAGTTCTAGC	TGTTCAAGAC	TACCAAAAAG	GGCAACCTCA	CCCAGAGACA
38101	CCATTGTGAA	ACCTTTCTTC	TACCCTAGCA	AATACAAAAG	AGGCTCTGCT
38151	TGTTTCAGGTG	GGCTGATTCA	GCTCTCAGAT	GTGCAAAGTG	AAAAACGATT
38201	GTAATAAAAG	GAGAGCGGTG	CATAGGCAGG	AGCAAGGCAA	TAGAGCGATT
38251	CAGACCATCA	GAACATCAGC	CTATGACAGA	ACCTTGGAAC	CCCTCATCAA
38301	ATGTGAGACA	GATAAACTC	AGACCACAGT	AATCATCCAA	ACCAAACCAA
38351	CCAAATCTGG	ACTTATTTTC	TAGTCATTAA	GTATTTTCAT	GCAGAAGAAT
38401	TGTGTTACTA	GGCTCACTGT	CATCGAAACA	AAAAGTATTA	GTGTAAAACA
38451	GCTTTTCATC	TTCAGTGAAT	GTCCTACAGA	AGCATTGAAA	GATGTAGCAA
38501	ACAAGCACAA	AAAAGCCCAT	AATATTA ACT	CACATTATTT	TTCTTTTTTA
38551	AGCCCACTGT	CCTTCAGCAT	TAGTAGTTAC	CTGAAGCGAA	GCACTTCAAA
38601	AACACTACTT	AAAATGATCT	CTGTTGAGAT	CTAAGTTGAA	TCTTAGAATA
R gene exon 2					
38651	AGCGGAGTTC	AGGAAGTATT	TTGCTTTACC	TTCTCCCAAA	ACATACCCTT
38701	TTCCATCGGC	AGGACCAGAC	TCTTTAACTG	GCTTTGGTGC	AGTTTTTTCT
38751	CTCTTTTTCA	GATATTCTTT	CAGTTTTTCT	GCTCTGTCCA	AGTATTCGCG
38801	ACATTTCACT	CTAATGCTCT	GTTTTGCTTT	ATCACCCCTGT	GTTTCATCTA
38851	AGAGTGTGAA	AAGAAACAAT	GCGTTGT TAA	CAACAAAACA	CACGTGCATC
38901	ATT CAGAAAA	CATCTTTATG	TGTTATCAAG	ATACCTCTCT	CAGGGCTCAC
38951	CACGCATCCA	AATGTTTCAT	TTACTTATTT	TTTCCCCTAT	GCCATGGAAA
39001	GAAGTGACAG	GAAAGAAGTT	AACGCCTACA	AATCAATGGT	AAGTAATCAC
39051	TTTCAAATCA	AATACACACC	TGAACGTTGC	TTTGCCTTAA	AACTTGCCT
39101	GAACACGAGT	AAGGACAGTG	GCACTGGAAG	CTTTTTCTGT	CAGTCTCTCA
39151	AACTGCTATA	TAGTGTCTTA	ACTACTTTTC	TAAACTAAGC	CATTGAGAGG
39201	CTGACTTCTT	GTTTTTAGAG	ACCTTTTTTT	AATCTAAGAC	CACTTTATTT
39251	TTCCCCGGCC	TGCTAATTTT	GAAAGTTGTG	CACATCAAAG	GAAGAAAAAA
39301	GTCACAAAAC	ATCTGAAAAA	ATGAGGAGTG	GTCCAACAGC	CACAGTTCTG
39351	TTAGTCGCTA	CTGCAGTATT	CCAGATCAGC	AATCAAGCTT	GAAAATATTA
39401	AGTTCATGCG	CTACGTTCCC	AAAAGTCCAT	CAGTATGGTT	AAAAGCATAG

39451	GGAAGTAAGT	GGCATGAGTT	AATGAGCACA	AAACAACCTG	TGGATACTAC
39501	TAAGAGTTCT	TACAAGAAGG	GAGCAGGCAT	GCAATATGCA	ACTTTTGTCC
39551	TTGCTATAAT	ATAACACCTC	AGCCAAACTA	CAGAGAGCAA	GTGTCAACTG
39601	ACAACAACAG	TCAGAAGTTA	AACGTTGATG	TCGACAGAGG	AGACTACTCC
39651	GGGCAATATA	AAACTTGACT	TCATCACCCC	ATGCATTACA	CTTACATTTA

R gene exon 1

39701	ACAACGTGGA	TTAAATACTG	CACAGCATGC	TGGTACAAAC	GGAAGGCTTC
39751	TTCATAGTTT	CCTGCTTTAT	CTTCTTGTGC	TGCCTTACTA	GCGAGGTCTA
39801	TCGCTTTCTG	TAACATAGGT	AAATAATTCA	AATGAGTGTT	GTGTGAGTGC
39851	TTTGTGCGAT	CAAAGAGGTT	TTTAAGCTGC	TGCTCTGACC	GCTTCTTGGT
39901	GGCCAGCTTT	TCTGCTCCTT	GATGTTTACC	CAAAAGAGCT	GCTGTTATTG
39951	AAGACTTGCT	GTCAGTTGTC	TTCATCAAAT	CCCATCGGCA	TCAGTGTTGA
40001	TACTGGAAGT	ACACGATTAC	AAAGCAATGA	AAGCAGCACC	CTTTCCCTTC
40051	TGACCCAGTG	CCAGGAGTTG	GTTTCAAAGA	CTCATTATTT	GGTAAGCTTC
40101	CTCTGAAGGC	TTTAGGTACT	TGACGTACAG	AAGTGAGAAA	TTCTAACCAT
40151	CTCTTCAGTG	TGCATATGGG	GGGGAGCTCA	GTGGACAGGA	AACATACCTA
40201	AATTATCACA	GAAGTTCTAT	CAAGGACAAT	TTAGAGATGG	ATTTTTATTT
40251	GTTTGTGAG	ATAATTTCAA	ATACATCTGG	TCGTAATCTA	AGACACTACA
40301	TCGGCCTGTA	GATATATTGA	TATTACTGTT	ATTCCTTTGA	TCCCGAGTGC
40351	TTTTTATTAC	ATTTTCAGATT	ACATTACAGA	TTTTTATTAC	ATCCTTGGA
40401	CATCCGTA	GCTTCAGGAC	AATTAAGAAT	GACAATTCCA	ATGACTAAGG
40451	CACGTATGCT	TAAAAAAGCC	AGAGTTGACT	AACGCTACCT	CGAACTTCTA
40501	CAGCCCTGTC	TGCATATTTT	CACCTTCTGC	CAGTTTATTT	CCCAAAGGCA
40551	GGGACAGCGT	GCTCGTGATG	ACTGTGCTAA	CATCAGGGAG	CAAGGTGAAG
40601	ATATTCAACC	TCATCACAGG	GTTTTCACTA	CACACTGCTG	TGCACATACT
40651	CTCAACAGTA	ACCAGACGCT	CTGATGCATC	TCAGTCAAAA	CCGAGCAGAT
40701	AAACTGCAGC	CATCAGAGAA	GGAGGAACAA	CATTTCTCCT	TCTATTGTTT
40751	TGTCTTGCC	TTTTTGGAAGT	AGAGATCACC	TCATTGGATC	CATCTGAAAT
40801	CAAGAGTAAT	TTATTTCAAA	ACAATCACCT	GACAAGTAAG	ACTATGGATC
40851	CTTTGTGACA	AGTGTGAAA	ACAGAGCAAC	CATCTGTTTC	TTTGAAACAG
40901	AACTTGGTCT	TTCCTCACTG	CTGACCTCGT	GCTGCCCTCT	ACAAATTCAT
40951	TGTAGAGGGC	AAACCATTCA	AATTCAGCAC	AACAAAAATA	AATTCCAAGC
41001	AATAATTTCT	GTTACTTTAG	TGATTTAATT	ACCACAGGAA	CAGTCCAATG
41051	ATTCCTGGAT	GCAGAACAAC	AAAAACAGGG	CTATGACAAA	AATGACAATA

CR1 - GG

41101	TATCCAAACA	ACAAATAAGA	GTTGGACTTG	ATGATCCCTG	TGTATCACTT
41151	CCAACCCAGG	ACATTCTATG	ATGCTATGGC	TCTGTGTTCT	AAATGGCAAA
41201	GACCGCCTCT	GTTCAATGGT	AACTCTCTTA	ACAGGGCATC	TTAGAGCCCT
41251	GCTCCTCTGA	AATACAAAAA	CAAAGGTCTA	CATCCTGTGC	TGACTGTTTT
41301	TGGTATTTTT	TCAAATAAAA	ACCCAGAAAA	CCATCACTTC	GGTTTTAGAC
41351	TCTCAGCTCT	GGTACTTTAT	TACATTAGGA	AGGCTCTTAG	CCTGCTACTG
41401	CAATGAAAAA	CACCAGTAAC	AAACAGGAAA	TAATTTATGA	AAGTTGTATG
41451	AAATAAGGCA	TAGCTGTAAC	CATAAATGAG	GCACAACCTG	TATCTATGGG
41501	GCTATAGTTT	GAGAGCTGGA	TGAACACCAC	CCTCAGAACG	AACATCGGCT

CR1 - GG

41551	TTGCTCTTCT	GCTTACTCTG	GGCCCTCTGA	TTTCACAGAA	GGGCGCAGGT
41601	TGGAAGGGAC	CGTAAAGCCC	ATTCAGTTCC	AATCCCCCTT	GCATGGTCAG
41651	GGCTACACCC	CACCAGCTCA	GTCCGCCCCAG	GGCCCCATCC	AACCTGGCCT

MAR (0.72)

41701	TGAGCACCTT	CAAGGATGGG	GCACCACAGC	TTCTCTGGGC	AGCTGTGCCA
41751	GGGCCTCGCA	ACCCTCTCTG	AGTAAGGAGT	TTCTTCCTAA	CATCTAAGTT
41801	TAATCTCCCC	TCTTTTGGTT	TAAAACCATA	CCCCTTTGCC	CTACCTCTAT
41851	CAGACCATGT	AAAAAGTCAG	ACTCCCTCCT	GTTTATAAGC	TCCCATCAAG
41901	TACTGGAAGG	CTGCAGCAAG	ATCTCTCCCA	GCTTGGTCAC	TATAAGCACT

41951 ACATAGCCTT AAGCTTACAG GCATGGACAT GGTTTAAATA GGTTTAAAC
 42001 TACTTTTTGC ACAGATTATT CCTGGATCTA TTTTGAACCG GCAACACAAG
 42051 CAGTTCACTC CCACAACCGA AGGCTAAAAAT AAAATAAAAT AAAATAAATA
 42101 ATAATTAAAA AAAAAAAAAA AAGGAATAGA GAGCAGACAA GCATTTCCAA
 42151 GAGTCGTACT CTCAGCAGAA ACCCAGTCCA AACTACGCCT CCAGCTCACA

CpG island

42201 GCAGGCCGCA GTCTTGCCCTC AGAGGCCAAC GGGTCTTCTG GTCCCAGCCG
 42251 GGCAGGTGAC TACCCGGGGT CCTCCGGCGC CTCCGAGCCC CCACCCAGGC
 42301 CTGCTCGACG CCCACCGCT GGTGTCAGCG CTTCTGCCCC CAGGCCCAGC
 42351 CTGGCGCCCC ACCCCGCCGA GCCCGCCCTC CCACCCGCCG GCTGCAGCGC
 42401 ACCGGGGTTC AACAGGACCC GCTCTACCTG CAAGTTGCCC GACATGGCGG
 42451 GGAGCCGGGA AGGGGAAGGA CACGAGACGA CACTGGCTAC GGCCGACCGG
 42501 AGCTGCCCTT CCCGCCACCG CCGCCACCG AACCGAAAAG CCGGCCTTCG
 42551 CTAGCCGCTT CCGCACCTCA TCGCCGGCCG GCCCGCTTCC GCTTCCGGGC
 42601 AGCGCCCCGT ACGCGTCACT TGACGTACAG ACGCCGCGCC TCGCCCCGCC
 42651 CTATCCGAGG GGCTGAGCGC ATGCGGGCCG GGCGCCGGAA GCGGAAGTTC
 42701 GTGGGTGCGC GCGCAGCAGT GGTGCTGAGG GAATGGGGGT GGTGTTAGGT
 42751 CCAGCACTGA CGTAGGGGAT AGGGCTGAGA TCTGATCATG ACCTACTGTG
 42801 GGGAGCCTGC TGTAGCAGAG GTTGGGCTGG ATGCTCTCCA GATGTCCCTT
 42851 CCAGTCCCTG CGATTCTATG ATCATTCTG TAAATGTTA AATAGTCACT
 42901 TATAGGGTTT TGAATAAATC ACGTTTTTTC CTCATGCCTC ACGTTTGGGA
 42951 CACAAAGACA TTTTTTCTT ACATCTCTTC TTTCTCGTAC CATTTGCTTG
 43001 CTTTCAGCGG CACTGTCTTT TGCATAATCT GAGTGCAGAA TGCTTTTTAT
 43051 TCACAGAACC AGCTCTTAAT AATTCCTGAC AGTCATAAGC AGTCAGGCGT
 43101 TAGTCACCTG CAGCTCAGTA ATGAAACTCA ACTAACAGGT CTGCAGAGTA
 43151 AGAGCAATGA CGTGACTCAG AAAGCACAGC ACATTGTAAA CAACTCTTGT
 43201 AAACCTGCTA TATGGGTTTC AGACTAATGA ACTTCTGCTA AGTCGGTGCA
 43251 ACAGTTGTGT TAAATTACTG TCATATCCTT CCCTATGTTA TTGTAATACT
 43301 GTTGAGGAAA TGCTTCCTTA GATTCAACAAT CCTCGTTTTT CTACCTGCCT
 43351 CCAACTAAGC CCAGTACAGT CTGCTCTGGG ATGAAGGTAA AAGGCACAAG
 43401 CACAGTCAGC CCTATATCTA GGAAGGTTGA TGTAATTTCT TCCTAAAGTC
 43451 CTCTGCTTGG CAGCTTGTTT TGCTTAATGT CTTCATATGT GCACACCAGG

S gene exon 1

43501 CAGGATGCTG AAGGCTCGTT GTTTGGGGAT GATCAGTAAC AGCTGTTCTT
 43551 CTATTGCAAA TGTGAAAGGG TACAATGTAG CAAAATTCC TGGATGTAAT
 43601 CAGGCTCTGG GAAATGAGAA GGCAAAGGAA ATGTTGGAGG TAAGAGCAGC
 43651 GTTCAGGAAC CAGAAATGATA TGGGTTGGAA GGGATCTTAA AGATCATAGA
 43701 ATCATAGAAT CGCTAAGGTT GGAAAAGACC CACAGGATCA TCCAGTCCAA
 43751 CCATTACCCC ATCACCAATG GTTCTCACTA AACCATGTCC CTCAACACAA
 43801 CATCCAAATG TTCTTTGAAC ACCTCCAGGG TCGGTGATTC CACCACCTCT

S gene exon 2

43851 CTGGGCAGCC CATTCCAGTG CCTGACCACC CTTTCAGAGA AGTAGTATTT
 43901 CCTAAAGTCC AGCCTGAACC TTCCCTGGCG CAGCTTGAAG CCATTCCCTC
 43951 TAGTCCTACC ACTAGTCACA CGAGAGACGA GGCCGACCCC CAGCTCACTA
 44001 CAACCTCCCT TCAGGTAGTT ATAGAGAGCA ATAAGGTCTC CCCTGAGCCT

S gene exon 3

44051 CCTCTTCTCT AGACTGAACA ATCCCAGCTC CTTTCAGCCGC TCCTCATAAG
 44101 GTCTGTGCTT CAGACCCCTT TCCAACTTTG TTGCCCTCCT CTGGACACGC
 44151 ACCAGGCTCT CGATGTCTTT CTTACAGTGA GGGGCCTAAA ACTGGACACA
 44201 GTACTTGAGG TGCAGCCTCA CCAGTGCTGC GTAGAGGGGG AGTCATCTTG
 44251 TTCCAACCCCT GTTTTCCTGT AGGTAGTATT TCTGGCTGTG CCATCTGTAC
 44301 CTATGGTTTT CAAATCTGTA ATGCTACACC TAGCTTTTAG ACCTAGGTCT
 44351 AAAACAGTAC ACAAGTCACA GGCATGTTAG TAATGCCTCT CCAGTCACAC
 44401 TTTGCAGTCT TCCGAAACTC CACATATAGA CATGTTTCTA TGATTGTGAA

44451	TGAGATTAAA	AAAAAATAA	ATTAATAAAT	CAGAAAAGGC	ACGTGTATAT
44501	TTACAGATAA	CAGGCTAAAT	ATTATACTTC	TTAATTAAGC	TTTACTATAC
44551	AGTATTCCTG	TTATGTGACT	TTGCAGCTAG	TTTTGCCTAA	GGAAATACTG
44601	GCTGAATGCT	GAGTAATAAC	ATCACGACAG	ACTCCTGAGG	AGCTAATGAA
44651	GTATTACACC	AAGAGTGTAG	CTTCAGTTTG	AGAGACGTGT	ATGGTCACAT
44701	TTTGGAATGC	TTCCCATTCG	TGAGTTGCTG	TGTTACAATA	TTCTCAAAAT
44751	CCGTGTCAGT	TATTGTGTTC	AACTGAGTGT	AATGACAATA	AAATATATTA

CR1 - GG

44801	ATGACGTTAA	ATGAAGATAT	CATAGAATCA	TAGAACATCC	CAAGTTGGAA
44851	GAGACCCACA	GGGATCACCA	TGTCCAGCTC	CTGGCTCCAC	ACAGCACCAC
44901	CCAAAATTCA	AAGTTGATGT	CTGAGAGCGC	TGTCCAAATG	CTCCTTGAAC
44951	TCTGGCAGCT	TGGGGCTGCC	CTGGGCAGCC	TGTTCCATAC	CCACCACCCT
45001	CTTGTTCCCT	CGGGCTCTGT	CGCAGTCACA	CAGAGCAGAG	CTCAGCGCTG

CR1 - GG

45051	CCCCTCCGCT	CCCTGCGAGG	AGCTGCAGCC	GCCACCAGGC	CTCCCCTCAG
45101	CTCCTCTGCT	CTGGGCTGAA	CAGACCAAGG	GCTCTCAGCT	GTTCCTCATA
45151	CACGTTGCCC	TCCAGATCCT	TCCCCATCTT	TGTGGTCCTC	CCTTGGACAG
45201	TCTCTAATAG	TCTTATGTCC	TTATATTGTG	GCACCCAAAC	CTGCACCCTG
45251	TGCTGGAGGT	GCAACTGCAC	AGCACAGAGT	AGAGAGGACA	ACCCTTTCCT
45301	GCACTCGATG	GCAGTGCTGG	GCCTGATGTA	CCCCAGGGTA	TAGTTGGCCC
45351	TTTGGGATGC	TAGGGCACAA	CGCTCAGTCA	CATTCAACTG	TCTGTCAACA
45401	AGTACCTATT	GGCCTGCATG	AGGCTGTCT	GCTAATTGGG	ACTCTATTAA
45451	ATCACATCAC	TGTGACACTA	GGTGGCACAG	GCACACATGA	TCTCCATGTT
45501	CCTTAAGGCT	GAGTGAATCA	TGGAGAATGC	TTCCTGCTAT	CAGTTTTTGG
45551	CATGGAAAGA	GAGGAGCCAA	ACCACCGGTT	GGTTCAATGC	CTTGTGCCAG
45601	GAATAGGTGA	ATGCATCAAT	ACAATAAGTC	ACGTCTACAG	CACAGCCAGG
45651	CCTCATGTCA	GCAATACTGC	TCCACTGTGA	TAGCTGAAAG	TGACTATAAA
45701	TGACTAACGT	TAGTGTGGGA	CTTTGGTGTT	AGATGACGTG	AGAGCCATGC
45751	AGTGAAAGAG	AATTAGTGTG	GCAGAGTATC	TAACAGTGCA	GGTAGATAAG
45801	GCAGGAAGGA	TAAGTGTAAG	GAAAGATAAG	GAGAAAGGCA	GGAAAGTAAA
45851	ACCTCTGTTT	TTCTCTAGTT	TTCTACCTGG	TGAAATGATG	AAGAAAGATC
45901	AGTTTGACAT	AGGTTAACAA	AACTGTCAG	TAAGAAAGGT	AGGAGTTAAG
45951	ATGCATGTTG	TCCAAATCCC	ACTACATTAC	TTTGACCCTC	TTCAGCATAT
46001	GCACAATGAG	ATCACTTGCC	CAAGACAGGA	CCTCCAGTGG	GCATGAAATC
46051	TGAAAATCAA	TTATTTGCTA	TTTGTGTTGC	TTATCATTTT	CAGATGAAAT
46101	TCTACACGAG	ATAATTAGAG	TGATGTCCTT	GAAGATCAAC	CTTTTTGTCT
46151	AATTAAGGTA	TTTGCTATAG	CTTCCAGATG	TATTGCTTAT	CTATGATAAA
46201	TATCCTTCCT	AACTACAAGG	CTTCTATAAT	AAGAGTAACG	TCCTCTATAG
46251	TAACCAGTAG	AAAGTAGGTG	GAAGCTGGGT	GTTCTTAGAC	AACCTGTGCC
46301	CATACATGGA	CAAAGTGAGG	AGGAGGACAC	CTCCCTAAAT	GACCACCAGA
46351	GACCACTGAA	GACCCACATG	CAAGCACAGA	AGATTCAGAT	GTGTTGGTGT
46401	AACCTTGTA	ACGCAGTAAT	CTCGTGAATA	TGTGATAGAT	AGGTGTGCCT
46451	TATGTATTAG	ATAGGCGAGT	ATTGAGAACT	TTTGGTTTAT	GGATGTGGAT
46501	AGTGCTGTTA	TCCATCTTGC	ACCCTGAGCA	TAAATAAAGC	AATATCTCTT

S gene exon 4

46551	CTATAGTGCC	TTGTCTTTTC	ATTGTATTTT	AGGAGACTTT	GAAACTGACA
46601	ACAGGCATGC	AGCTTGGGAG	TGCTCACAGT	CAGTCTGGCC	ACAGTGCCTT
46651	CAAGCCTCCC	CTGCACTGGG	ATGTGGTGTG	ACAAAAAGCA	CAAACTACTGC
46701	TTTTGTAGAA	GACCCAGACC	ACAGGCTGCA	CTAGGGAACG	TGTCTGCCTG
46751	GAGCACAGTG	CCCTGGGGAG	TGCTGCTGGT	ACAGTAGTCC	TGGATGAGTG
46801	GCTTCCTTCT	GTAACCTTTT	AATTGCACTA	GAAGTACACC	AGCATGGCAG
46851	AGAAGGGCTG	GGTCCTAAGA	GCCCTTCTTT	CAAATTCAC	CAGAACTCCA
46901	GATGTTTAGG	CAGGGTGTTG	TAGCTGTAAA	GTCCAGGAAG	AAAAGGTTTA
46951	AAGCTGTACT	CGGCACCAGA	AAGACTGGAG	CCAAAATAAA	GCCACATTGC

47001	ACCCATGGCA	CTATAGGCAA	AGGGTAGCCT	TGGGGCAAGA	CTTGATGTAC
47051	TAGAAGTTGA	GGAGTCCTCA	GACTCTGTGT	CAAGGGGATG	TGCCACAAC
47101	CTACTGTGCC	CCTACCTGAA	GCCTGAATCA	GTACAAATGT	CTCACGCATG
47151	GGTTAGGCAT	CCTTCTCTCA	AAGCTCTTGG	TCTTTGCACA	CTTTCTTCTG
47201	CAGCTGCAGC	AGCAGCCAAA	GGAAAATTAG	GTCTTGCTTT	GAAAGCCAGC
47251	CCCTTCCAGC	CATGACTGGT	CCCTTCTCAC	TCCACATCTG	TGGATGATGC
47301	TCCCACAGCA	GGTGGGAGAG	ACAGAGGCTT	TCTTGAAGAA	ACCCAGCCCC
47351	TCTAGGGGAA	CACTGTAAAG	TCACAGGGGA	GGAGACGTGG	CTTTGAGACA
47401	GTGATATACT	CCATGCCCC	GGCGTTCCTC	CCCTGAGTGC	CACTGGTGCT
47451	GCTCAGTGGT	CACATGCCAC	CAAAGTCTGC	ATTCATCTTT	AAATGCTGCT
47501	GAGAATTCAA	CCTTTGATAA	ATCATCTGCT	TTGACAAAAT	CGACATTTAA
47551	AAATTAATAT	TTCCTCTTCC	ATCCCCTACT	TTTACAGGCT	GGCTCAAGAA
47601	AATGGGAAGC	TTAATGTAGA	CTTGGGTCTT	ACTAAACCAT	TTCCTGAGGA
47651	AAGACATTCA	CAGTCTGTGG	CAGATGGTAG	CAGTATATTT	TCTCTCATAG
47701	TACAGGAATG	GGTCTGGTAG	TACCTCTTTG	GAAAGGAAAA	TGTAAACTCA
47751	TACGTTTTGA	GCCAAATTCC	ATCAGATTTT	TTAGTTTTGT	TAGTTTTTAC
47801	TCCACTCCTG	CTGGAAACTG	AAAAATATGA	AATGCTTGGA	AATTTACTGT
47851	GATTTGGGTT	CAGGTGTGTG	TATGCAGGAA	ATGTGTTACC	TTCCAGAGTA
47901	AGTCAGTTTA	TTCTAGAAAT	GGGATGACTC	CACTTTTATA	CACTTGTAAT
47951	TCACAGTGAG	ATTAATCCAG	CCAATTGGGA	AAACAGCCTT	TCTTAAATTG
48001	TGAAAAACAT	GCTCCACTTC	TATGTATTTT	TTAATATACT	TCAGCATTGT
48051	GAATTTGAAG	TTTTTCTTCT	ACTGTTACAT	GCATTCCAAC	AGAATTTGTC
48101	AGGAACAAAA	ATGAAATCTG	AAATAATATT	TTTCTTAGCT	TTGCATGTGT
48151	TATCCTCAAG	GGTAATCACT	GTCTTAAACA	ACATACTTAT	GGCTGTTTCT
48201	GAGCCTTTCT	TCTTCATGAA	CTCATCAGAA	AGGGACACTC	ATATTGGCAG
48251	TCTGTATAGA	GAGCCAAGGA	CAAATATTTT	GCCTACGTCT	TCTCTGCGTA
48301	GCATTTTATA	TATTAGGTCT	TGCTAGTGAA	TTATGACTGA	ATGGAATACA
48351	GTCCCTTCAG	TGATGACTTC	ATTCATGATT	GAATAAATGT	AGCTTCAGGG
48401	CTGTATGGTT	GACTTACATC	ATCCAATTTT	GCCATCTGCA	ACAGCCAACA
48451	CCTCTACCCA	TATATGAATT	CAGCGAGGGA	TTTTGTACTA	TGTGTTGCTG
48501	GGATGTAGCA	GCATTTCTCT	TTGAAATGTC	TTTACAGATG	CAATGCCTAG
48551	CAGGCTTAAC	AGCCCTACCT	GCTTCAGAGA	CACTGCTGTA	AAAAGAAAAA
48601	GAGAAGCTTC	CCAGCCAGTA	TTTCATCAAG	TTAAAAAAA	TCTAAAAGTT
48651	TATACTGTAC	CATTTGGATT	GCTGCATGTT	GACATCATTT	AGGATTCTGA
48701	AAACCTAAAG	AAGCTTTGGA	GCAACTCCTA	AGTGTATGGT	AGATGCTCTC
48751	ATTATGTAAG	AGTGACAAAT	CACTACCAGT	CTTCCAAAAA	TGCATGCTGA
48801	AATCAAAAAA	GAAATAATGG	ATCTCACAAA	ACTGGATCTG	CAGATCAGGT
48851	TCTACAGCCT	CTGGTATGCA	AGGGTTAAAG	TAGAGTGATT	GTTGTAGCTT
48901	GTGTCTCACA	GTCAGACATA	AATCTGTAAG	CAGGTCCAGG	TTTTGTAAAT
48951	TGTTGCTTAT	CACCACATGA	GCAATAAGTA	ATCTGAACAC	CCAATGTAAAC
49001	AGATTTCTAG	GAGTTAGGGC	TGAAAAGCATC	ATGAAGTTTA	TTCTTTTCTA
49051	CAGCAAAGCA	GGCTCTGTGT	ACCTGTCTAG	CCACATTGTC	TCTGACAAAA
49101	TTTATCATCA	ATTCTCATCT	CCATCAACTT	TTAAGAATTA	CAGAATTGAA
49151	GGGAGGGATT	GTTGAAAGGG	ATCTCTGGAG	ATCATCTAGT	CTTACCCCAT
49201	GATGAAGCAG	GTCCTTACA	ATAGGTGGCA	TAGGAAAGTG	TGAGCAAACA
49251	CCCTGCTGTG	AGCACTCAGT	GTAAAAAGAA	AGCCTGGAGT	AGAGACCAAC
49301	ATCAATCTGT	ATTGCATCCA	AACCAGAAAG	GGCAAAAAAA	GTGTCTCACT
49351	AAGCTTCAGA	AAGTGTA AAC	AATTACACAGA	AGATGGATTA	TTGTGGAGAG
49401	AGTAAATGTG	TGCAATTTTT	ATTTTCCCCA	ATATGTCACC	ATTACAAAGG
49451	AAAATCATGG	AATGGTGGAG	GGTGATGGAG	GCCTAGCCTG	GGGCCCCAAT
49501	ACATGTAGCA	GTGGACAGTG	AGGTCACCGA	CCAAGCGGTT	GTGATGTCAG
49551	CAATGGAAAT	GACTGTGACC	TCGCTAGCCC	TCAGTGATCA	GATTTGGGAT
49601	CTGGCAGAGG	CCAGCGTGCA	CTTGTGCCTG	GACTCCCGTT	GAGCATAGCT
49651	GCGAGACTTG	GAGCAGTGAG	CGAGTTGGTT	GAGTTGTGCT	GTGGGGCTGC

49701	TGGCAGCAGT	TCTTGGTGCC	CACCCACAG	TACCACCAGC	GTTTCCCCCA
49751	GCCCTGCCTG	CCTCAGGCAG	CTGGGGCCAC	ACAGGGTGCA	CTTGTAGCAG
49801	CAGAGGTGAG	TGGTACAGTG	GGGAAGTGGT	GGGAAGTGG	GAGGGTTTGC
49851	TGCTGAGGGA	CCAGGACATC	TGGACAGCTG	CCTGCCCATG	GGACAGCGAG
49901	TGACCATGGC	CTCTCTCTCT	CTTTGCAGTT	CGTAACACCT	TCTGCCTGCT
49951	GCAGCACCTG	TGAGGGGAGC	AGTTTCCTGA	CCTCAGCTCT	CCCAGCCCAC

T gene

50001	TGCACAGCCC	GGGGCCATGG	ACGTGCCGTC	CAACTGGACC	TGCCCCATCT
50051	GCGGGCAAAG	TCGGGAGGAT	GTCACCTATG	TGACCCCCTG	CCAACACCAG
50101	CTTTGCTATG	GCTGTGCCAT	CTGGTGGGCA	GAGAAGAAGC	CGAGTTGTGC
50151	CATATGTGGG	CACCAAATCA	CCACTATCCG	ATACTCGGTG	AGGTCGGATG
50201	ACGATTACCT	CGAGTGTGCT	GTCCCGCAGC	CCGCAGCACG	CTCAGATCAC
50251	GGCCTGCAGG	ACGAGCAGGG	GCCTGCAGAG	CCGGTGCTCA	TCCCACCTGA
50301	GCACAACTTC	CCCGCCGAGG	TCTGGGCTGC	ATTTTTTGAT	GGACATCCCC
50351	AAGACCTCGA	GCCCCTGCTC	CACTGGCTGC	AGGATGAGAT	CCAGCATTTG
50401	ACCAGAAATG	GGTGGTGGGC	AGTGTGTGTT	GGACAGTGGA	CTGTTGTAGG
50451	CCTCCTTTGT	ATTTTCGGAC	TGGACGAGGA	GGCCTTGGTG	CAGGAGCTGC
50501	AGCCATTCTC	TGATGCTGAC	TTGGTGCCCT	TTGTAAGGCG	GCTCATCAGC
50551	ACCGCTGCAG	CCCTGTACGG	CCCAGTGATC	CGCCGCCAGC	TCGACCAGCA
50601	GGAAGGCTGT	GCTGCAGGAC	AGCGGGAGGA	CAGCCCCGCA	GCCAGCCCCA
50651	GCACCACCAC	CTCCCATCGG	GAGCCTCCTG	CCTTGCGCCC	AGGCCGCTCC
50701	ACCAGTCCCG	CAGGGCCCAG	CACCGAGGAG	CTGCCCCGCA	GCTCTACTGG
50751	GGGAGCTGGG	CACCCCAGCA	CCACCACCGC	GCCCTCAGTG	GAGGAGCCGC
50801	AGGAGGAGCC	ATGGCAGGCG	GTGGCAGCGG	GCCCCCTCAC	CCAGGGCAGG
50851	GATCGCTCGT	GTGGGGGGCC	CCGGCGCCCC	CCGAAGAGGA	AGGCCACAG
50901	CAGCCCCCAG	GCCTCACCCC	CGCCCCCCTA	AAGGCGGCCC	CGACGGCGGC
50951	GCTAGGCCGG	CACCGCACTG	CCGTGAGAGC	ACGGCTCCAG	TGGGCTGGGA
51001	GGCCAACATC	TACCTCTCGG	CCTGCTGCTT	GCAGATAAAA	TGTGGGGATT
51051	CAAGAAAGAA	TATTTAGAGC	ACAAGCTGCA	GAACAAGATA	AACAGCATGG
51101	GAAAGGAATG	CTGAGGACAG	AGGATGCCTC	CAAGAGAGAA	GAAAGTCAAG
51151	TGAGCTGCAT	GATCGCTGCC	TAACAATCCT	AATTGGAAGA	AGAGTATGTG
51201	GCTAGGAATG	ACTCATAACT	CTGATTGGAG	AAGCGCTGTC	ATGCGTGGTT
51251	AAGGAGTAGA	ACAAGAGCAA	GGGTGACCTT	GTGGGATGTT	TTGTTGACAT
51301	GTAAAGGGGG	TGGGAAAGAT	ACCAGAGAAA	ACTTGGCAGT	GTATTTAAGG
51351	GATATTAGAA	TATGCAATAA	ATGATTTGGA	TTGCTCATAC	ATCTGAGTCC
51401	GTGCCTTGGA	TGCTGCAAGA	AAATAAACAG	AAATTCAAAA	AAAAAAAAAA
51451	AAAAGGATAA	GAAAATGTCT	CTGTGTTATT	GACAAGGCTG	TGGGCGTTGC
51501	TGTCCTTTCC	CATGCTGCTT	TCTCCCTCTT	TTTCTCCTGG	AGGTGAGCAC
51551	AGACATGCAG	CTTTATTTCC	ATGACCATAA	ATTGGCTTTC	ATGACAGCAC
51601	TAAAAAACA	CACGAGGGCT	CCAACAAACA	GAGAAAGGAA	CTTATGTTAC
51651	TCTAATAATA	ATCCAATAAT	CAGGGCTTCA	CTAATTTCTT	CTCATACTGC
51701	CAGCTCCAGG	CCACAGATAA	TTAAGTTTTG	TTTGATTTCA	GTGACTGAGC
51751	TGTGATGTCA	CCCTCTCTGT	AGACTTCCTA	TTAGTCTGAT	GTTAAAAACA
51801	CCAAAAATAT	GTGCTGTAAT	CCAAAGAGAA	ATTATGGGTC	CCATTAAATT
51851	GGTACTTTGG	GTTCTACAGT	CTCTGTTATG	CAAGAGTTCA	AGCTAAATGA
51901	TTGCTGTAGC	TTGTGCACGA	GTTTTGAAAA	GATACCAATC	TGTGAACAGA
51951	CCCAGATTTT	CTTCTGGA	TTCTCCTCCC	CTGTGCAAAG	GAAAGCACAT
52001	TGTTTTTTGC	TCTCATCAGA	GAGTACTCTG	AAATGAACAT	TTTTTGAGTTA
52051	GACAGTGAGG	AGCAGAAAAG	AAATTCTATT	CACATAGGTG	CTTTTAAAAG
52101	CATTACCAGA	TTCTTCTAGA	CAAATGACAG	AGGAATAACT	TTTGCCATTC
52151	CATTACACAA	TAGAATAACT	GAACGCAAA	ACAAAGAGTC	ACGCTACAGG
52201	AGTAAGTTTT	GAAACTGACT	TGCTTACCTC	TGATGCTTCC	AGCTGACTTT
52251	CTCCATTCTC	ACAGTAGATT	CAAAGTTCTT	TTTTTTTTAA	CTGTGTGACT
52301	GTAGAGAGTA	GTGTTCAACA	CTTAAGTGCA	TGCTGTGCAG	TCTGAATTAG

52351	AGCTGGGGGT	AGGTGATAAC	ACACCTCCTT	CAACTGTTTT	GTTTTCTGA
52401	ACTGTGGTTT	GTCTCATTAT	TTTCTTCTAA	ATGCTATTTT	AAGCAGTAAG
52451	AGTTTAAACA	TGCCTTCTGC	CTGCCTTAGA	ACTGCAGAAG	ACCTTAAATG
52501	CAGAACTCTT	ACTGTTCTTG	AATTCATGGG	AAGGTCTGAG	GAAATGGGGC
52551	CATCCAAGAT	GTCCTCCAAA	CAATACGTTT	CCTCATTTCA	TTATGTGTAA
52601	GGTACAGTGG	TGTTGTACCA	GGGGGTGAGC	ACTGCAGTGG	TAAGTGCTGT
52651	TGGACCTGTC	GTGCAAGAAT	AGAAAGAAGT	CCCACAACAG	CCAAAGTCCA
52701	GTGGCTGGAC	CAGGAGTAGC	CAACTATGTG	GCTGCTGTGA	TTTGATCCAC
52751	ACCAGATTTT	CAGGTTAGCA	TTTTCTCTTT	AGACCCATCC	TTATTAATCC
52801	CTAAGCCTTT	TAATTAGTTC	TTGTATGGAA	AGTAGCAGAA	ACTGTATAGG
52851	AAGTCATTTA	TCTTTCTCTT	CATCCTAGCC	ACTCTTACCA	GAGTAATTTT
52901	CATCTTAAGC	AGGAAGCTCT	TCAAGCCAGG	CTATTATTCC	ATCATAAACT
52951	GTCTATAATT	CTTCTACACG	TATGACATTT	TGTCTACATC	TTCCAATATC
53001	TGTCTCACTA	ACAAGCCTGT	TTCTGTTTTT	TATCCACAAC	CCATCGAATT
53051	TAGTAGCCAT	CTTTGCAGTG	GGCTTTGGAT	CTTGACCCAA	GAAAGGAAAA
53101	CGGAAGGGTA	TTTGCACTGT	CACAAGTTCC	TATAGACCTA	ATTGCAGCTT
53151	TCCAAGTCAC	TTATGCCTGT	TATGTAAATG	TAAACGCTAT	TGTGGAGTTT
53201	ATTAAGTCGC	TGGATTATGC	ATGAAGTATC	CTCTGGAGTT	TCCCCATCAA
53251	GCTTAATGGG	ACCATTAGAT	CTCAGAAGAA	TGACGAAAGC	TATTTCTCAG
53301	TAGCTTACAT	ATTACCTGGG	TAGATGTAAT	GGGAAAGAGA	AAAAGAAGCA
53351	TTCTGTTATC	AATTCCTAGC	ACTTTCTTTT	GTAAATATA	GGCTATTTTT
53401	TTTATCATTC	ACAATTTTTT	CTACTTTTCC	TTTTTTTATG	GCCTAGTATG
53451	TTCTGTGCTT	TGTTACACAA	ATCTAGGGAT	CCTGGGTTAG	TGGTGATATG
53501	AGCTGAATCA	GCTGCTGAAT	GTAGGAATAG	CTCACTTGCT	TTCATGGGTG
53551	CTAATCAGTT	TACATTAGCT	GAGGTTTCAGG	GCCATTGTTT	GTTAAGATTT
53601	ACATCTGGAT	GTCAAGATGG	GTTTGCAGGT	ATAACTTTTA	TAAGTGACTG
53651	GTGAGACAGC	GACACTGTAG	GGTGTTTTAC	TTCGAGTAAT	GCAGAAGTAAT
53701	GTGCACTGAT	TTTGTTGCCT	TTAGCAGATC	TGCCAAATAC	CAACTGAAGA
53751	AGCAAGAATT	AACATGTTTG	TTCTCTGTCT	TAGTTGCATT	CAGGGACAAG
53801	AAAAGCTCCA	TCCTCTCCTG	AAAATACACA	GCTGGAGAAA	ATTCAGACCA
53851	TGGAGGCAGA	CCCATTTCCA	GTGTCTATTT	CAGCAAATAT	TGACTCTAAG
53901	CTTTTATTGT	CCTTTAATAT	GCATATATTC	ATGCTGTGAA	TCTATGCTGA
53951	AGAACTCTGG	GAAGGTGTGT	GCCCTCACCC	ACATTAATCA	CCCAGACACT
54001	TCATAACTAC	CTGGATTACA	GGAGAAAAGT	ACTCATCTAC	TGATGACGCT
54051	GGATAAAAGC	AAGAGGGGAA	AGAAATCCCC	AGTTCTCACA	CCTCCCTCCT
54101	CTGCACATAG	TAAGGAGGCA	CTCAAGGGCA	TAATGCAAA	CCAGAGCTGG
54151	AAGGGAGGCT	GTGTGTCAGG	GCCCAGGCC	GCTGCTGTGG	GCAGCAAAGG
54201	CCATGTAATC	GCTGGACATG	TCAGTTCCTA	CTGCTCCGAT	CTGAAACCA
54251	TTCAGAGTTA	GAGGGAGAGG	TCTGCTTGGT	CTCTCTGCTA	CTCATGGGAA
54301	AAGCACTTCT	GCCAATGTGA	TCTACTCTCT	CTTCAAAGTT	TCCACATTGC
54351	TTACGTGAGC	AATCCTATCC	CCATGCAGGC	TTTCTTTTGG	TAGGTGAGCC
54401	CCTGATAATT	CGAAAATCAC	ACCTACACTC	AGCTAGGAGC	TAACCAGATC
54451	TATAATCAAG	CACAGTATGG	TGTGGCTATG	TAGAGGAAGC	ATCTTCAATA
54501	AATGTACTGC	AGTGGAATA	TGCTTTTAAT	AAGGCAACTC	TGTTACATG
54551	AACAGTACTA	GAGAGAAGCA	CACCAGGCC	TGAAACTTCA	GGGCAAACAA
54601	AGGTTTGAAA	GTATCCCTGA	ATTAAAAATA	TTGAGGAAAG	GTGACAAACC
54651	TAAGCATGTT	TGGGTTTTTT	TCTGAGACAA	GCATCGTGTA	GGTTGTTTTG
54701	AGCCCTAGTC	ACAGCCTGGC	AAAAGGAACC	TGGTGCAGTC	ACTATGGGCA
54751	CCAGAGAGGA	AGGAAGAACA	GTGTTGTCCC	TGTCCTTGTG	AGAAGGAGCT
54801	CTGAACCACA	GTGCACATGT	GTGGGGGTTT	ACAATACTGT	CTTCTTGAA
54851	GGACTGGATG	CTTCAGTGGG	AAGTGATTAA	TCCAAAGCAC	TGTCTCTCTG
54901	CATCTGATTT	ATCTGTGCCA	TACCAAGGCC	AGTTATGCCC	AGTGCTAAGA
54951	GTTGGGAGCA	ATGTCTTTAG	GGAAAAGGTC	AGATGCCAAA	TGATCTGATT
55001	CCAGCACTTT	CATTTTCATCT	TTCATTTTCT	GTTCTCCAGG	TTAAAGGCCT

55051	TGTTCTCACT	GAAAGCTGGC	AACTGTTTGG	CCGCCTGTTA	TTTCAGAGTT
55101	GTTTTATCAT	TATTATTATT	TTCTGATGA	GATGTATATC	CCAAACAAGA
55151	ACAGGCTCAA	TAAAATAAAT	GAATGAAATT	AATTTCTGT	CTTTGATTAG
55201	AAATATTAC	TGGTGAGGCA	CACTTCTACG	TCAGCAGACA	TGTCTGCAGA
55251	AGGCTGAGTT	CTTGCTGGAC	GTGTTGAAGC	AGTGTGTTGC	TGTGTGACAC
55301	CATCCCTCAT	CCATCTCAGT	GCAGATGCCT	TGGGAAGAAA	GAGGAAAAAA
55351	GAGAGGTCAG	CTTGCTGCTG	CTCAGCTTGT	GTCTCTCTCA	GTATAATCCT
55401	AGAATGACAC	TTGATTATTC	TAAGTGCTAT	TGTAGTTGCA	AATCATCGTG
55451	TGGTTTGTAA	CTGTCAGTCT	GACCTTTACT	AGACATATAC	TGAAAAATAT
55501	TCTTGCCTGT	GACTTCTCTC	TATTGCTAAA	TAATGATCTA	GACAGATACA
55551	CAGTGAATAC	AGAAAAGTTCA	GTTGTATAGA	CCAACTGACA	GACATTGTGA
55601	TTTTACCCTT	TGTTTTTTTCT	AAGTGTGCCG	AGGAAGCAGG	TTGTTGTATT
55651	GAAATAAAGG	CATGCAAATA	ACCTGCTACT	GGCTCCCTCC	AAGATCTCAG
55701	GCTTGCTGTA	AAAGCCGTAG	CTAGGTCAAA	AGGGGTTGCA	CCTTTTGTGA
55751	CTGGCAGCAT	AATAAACATT	CCCCAGTTTA	TTCTGCTCAT	TATTCATCC
55801	ACACTTGTAGC	CAATTTCCCTG	TGTGGTCTCC	AAAGCATGAA	ATCTGCAATC
55851	AGACATGTCC	TGAGTGTCAA	TGCATTAGGG	AAATAAAATA	AGGAAAAAAA
55901	GACAACAGCC	GTCAGTTGGA	GTCTGTGAAG	GAGCTGAGCT	GGTTCATAGA
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56001	GGGTGGGAGG	AAGGAAGCTG	TTTTTCTTTT	CCACTCAGCA	GCGTGTAGCA
56051	ACAACGCCCT	GAAGGAGTGG	CAGGGTGAGC	CGAGACCTGG	GGCTGAGAGC
56101	AGACAGGATG	ACAGGAGTGT	TACCAGGTGG	CTGCATCCCT	CCTGCACACC
56151	GCATGGCCAG	GTGGTGGCAC	ATGGGGATGG	CTGCTGCGTT	CTGGTGCCCA
56201	GCAAGGCCTT	CGCTTGTGTT	TCCCTTGCGG	CTGTTGAAGA	CCTGAAAATG
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56301	GACTGTGGCT	TGTCCTTGTT	ATGAAACTTT	GGACTGCAAT	AATGACGGTG
56351	TTTCACTTTG	CACATCCCTT	GTTCTATGT	TGTTTTGCCT	CTGTCTTTTT
56401	TCAGAGACAG	CATCATGACA	GGAGATGTCC	AACTCACAGG	GAGCTTTAAA
56451	ACAGCTTTGA	TTTTATTATT	ATTATTATTA	TTATTATTAT	CTAGTAAAGA
56501	AAAATCCTGC	TCTTCATTCT	GCTATCTTTT	TAACCTGATT	AAAAAACAGG
56551	TTGCAATAGA	TGTGTGTTGA	AAATTCTTGG	AGGTCAAACC	AAGCAAGACT
56601	AATTCGGTGA	CAGGTAAATG	CAGGAGATGC	ACAAGCTGAT	GCAGTTAGTT
56651	AGATGTCATT	CAGTCAGACT	GAGGAAGATG	AACTGGGAAG	CCAAGCTCCA
56701	GTGCTTGTCC	CTTGCAAACC	TCAGGTACCT	AAGGCTCAGC	ATCTTCTGCT
56751	TTTCAAGTCA	GCATCTTTTG	CTTTACTGCT	TCTTCCTGGT	TGGGCCATAA
56801	GTAAGATCCA	GGTAAGTGAC	AGGCACTCCC	ATAAATACTA	ATGTGAAGAT
56851	ACATATAACA	TATACATAAA	ATGACTTTAG	GATGTTATTT	GTCTCTATAT
56901	GTGACACCTA	ATATTATTTT	AACATTATCT	CCAACTGTAA	ATTAACCCCA
56951	AATATCCATT	CTCTGGGGAA	GCAGGACTGC	CCTGTGAGCC	ACTCAGTTAC
57001	AGGAGCCCGT	GTGGACTCCT	TTCTTTGAAG	CATGGCAATT	GGTTATTTCT
57051	CTCATGGCAC	TATGATCAGA	AATCAGTCAT	TTCTCAGCAG	CAGCTGGGTC
57101	AGGCAGAAGA	GTTCTGTAAG	CCTACAAAAT	GCCAGACCTC	AGCTATCAAA
57151	GAGAAGTTAC	AGAGTGAGAGC	GCAGTAATGT	TCATGCACCT	TCAGCTTTGT
57201	AATGTAGAGT	TCTTTCACCT	TTCCCTGCTC	AGCTTTTAGA	AGTAACCAGT
57251	GCACCCCTT	GTATTTGTAT	TTCCAGCCTA	CATGGTGATG	GAGCTGGTGA
57301	TGGTGATAGG	AGGTGAAGGT	GGTGACCTGT	GCTATCTCTG	TCAAGGCAGT
57351	TGAGTTGTCA	GCCACTCCCC	ACCAGTGTGC	ATCCAGAAGC	TCCTGAACCA
57401	CTTCACAGAG	GGCCGTCTTT	AGTAGACTTG	GGCCTGAAGG	AAAGTTTGT
57451	CCTTTGGCTC	TAGATTACCT	GCAGACATCT	GAGAAGAGTC	TGGCAGCCAA
57501	CATTATTGCA	GATTTTATATC	AAAATTTCTC	TCATAGTGTA	AGGCATAATT
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57601	GATGTTCTTT	GAATTGCTTA	AACATATCCA	CACCTTAATG	TTTGTTATGA
57651	ATTCACTTAT	GGTAAAGCAT	ACTAATTTTA	TGTTCACTGT	CTGGTAAATA
57701	AATGAAGTTG	AACCTACTT	CATCACAGCA	GAAAGGAAAA	TAAGATTTCC

57751	TTTGGGTAAT	AATGAGTCTT	TTGGAAGCAC	ATATTGCTGG	GATCTGATCA
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57851	ACTCCTCAGT	TGCCACTGCC	ACCAAGGAGG	TATCACATCA	GGGAAGACAC
57901	GTACTTTGGT	TTCTTAGCCC	TTTCATTGTC	CAGCATAGCA	ATCTTGAAAG
57951	CAAGCTCAAT	AACGTTTACT	TTTTTTGTAG	CACATCAGTA	GTCTAAGGGC
58001	ATATAGGGCT	GCCTGGGGTG	GGTGAGGTGT	GGACAGCAGC	TGTGTTTGTG
58051	GGTGGCAGTT	TCCTCATGAA	GGTTGACTTG	GACTCCAGGA	AGTCCTTGTT
58101	AGTGTGGTGG	GCAGCTAGAC	TTCGTGATGG	GAGAAGCAGT	GTGGAGCAGA
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58201	AAGACTGTCA	GGCTGCACCA	CCACCTTTCC	CTCTCCCTTT	CTTCAACCCC
58251	CTCCGCATTG	GATTCATCAG	TAATCATGTG	GCCAATGAGG	CCTGAACCCA
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58351	TCCCAGCTGA	AATCATCTGC	TTGAGAGCAA	CACGGTGAGC	AGACATTTCT
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58451	CACCACACAA	CCCTCACAAA	GACAACACTG	AGACACTATC	TTAACGCAGA
58501	CACAGATGCA	AAGTACTGGG	TTGCCATCAC	ACGTTTTGGT	TGCCTTCCCT
58551	GTGTGTCTTT	TTCAACAATTA	CAATTTTTTTA	CGAATCACAG	CAATTCCAAT
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58651	CTCCTGCACC	CTCTCTTTCA	GAGTCTTTGC	TCCCTCCTGT	CTGGTGCCTA
58701	TTGTAGGGCA	CTTGCTGCAG	GCAACGTGCC	GAGGCTGCTG	TTTCTGCTG
58751	GAGCATGTTG	TTGTGTTTCA	TAGCTAGGCA	GGCAAAGACA	ACTCAGGTGT
58801	GACTCATACT	GCTCCTCCAG	TTTAGGAGTT	GCTTGAAGAA	TGATTAAGGG
58851	AAAGAAAAAA	AAAAAAAAAAG	AAGAAAAAAA	AAGCGAGAGT	GTGTGCGTAA
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59051	CAACATTTTT	TCTTCCTCTG	GACTTTTGAT	GCCTAACTAA	CAGTTATAAA
59101	ATCTCTGCCG	TGAAACGTAA	TCGCATAGAG	TGAGCAGGAT	AAGGAAGCTT
59151	GTACAAAAAG	ACAGCATGTG	AAACTAAAGG	TGGAAAAAAG	CCTGCTCAGA
59201	CTACAACCTT	CTGGTTTTGT	CCCAGCATTG	CTGTGTTTGT	CCGTCTACAT
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59301	TGAGACTGCG	AAGACATTAG	GAATTATTAG	AATATTTAGA	CTACCTGTTG
59351	GCTGTTCCCA	ATGGCTTTTC	CTGAATCAGA	AGAGCAGGCT	GTATATGATG
59401	CCATGAAAAT	GCTCCATATC	TCTAAGTAGG	TGTAGACTGT	TTGAGAAGTT
59451	TACAAAAGAA	TATTCTTCTT	GTTTTCCACA	TGGGTTTCGT	TGCTTTGCTC
59501	TGTTTGCTTT	GTCTAAGCCT	TGCTAGTTCA	AAGGACAAGA	ACTTAAGTCT
59551	ACTAATTACC	TACTTGATCT	TCAGTGTGCT	CATCCGGTTG	GAAAAATTCA
59601	CTGACTCTTG	AGGCACAATA	AAGGGTATTG	TGGAGACTCT	CTAATTCCTG
59651	GTGTGACTTT	CTCAATTGTG	TTGCTGATGG	TGCTTTTTTCC	ACAACCTGAT
59701	GAACACTCTG	ATCTCGCTAA	AGCAAAGCAT	CAGTCTGATA	TTGTGTGTTT
59751	CTCAGAGAAA	CATCTGTTCA	GAGGAAATCA	TGTCTTAGTC	ACGGAGCTGT
59801	GTAACCTGCC	TGGTGGAGAG	CTGCCATTTG	TGTAGAAGTA	GGAGGAAGAG
59851	GCTCACAAGA	GTTTTGTTCC	TTTATATTTT	GTGTTATCCA	AGCAAGAGCT
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60251	TTAGTAAGCA	AATAGCAAAC	AAAGCTTTGT	TTCTGTTGGT	TGCATTGAGG
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60351	TTTTTTTCTG	CACTGATTCT	AGAGCCTCTC	AGCTTCCTCC	TGTATCTGAA
60401	CGTGTTCCTT	GAAGTCTGTG	GCCCCATCAC	AGCTTTAAGC	AAAGCTGGGT

60451	GGATCACAGG	CTGCATGTGC	TTAGAAGGTG	CCACCGTGCC	GCGGGCCTCT
60501	CAGAATGCTG	ACTTGTTGCT	CTCCTGGGAA	AGCAGGGATT	CAGCCAGAAT
60551	CCAAGCAGCC	CTTCTTGAAA	TTTCATTTCC	AATTTTGTTG	ACTCCTCCCT
60601	GTGTGAGAGT	TTCCTGTGAT	TACTGACTCA	GGAGCTGTGT	CTGGTTTCTG
60651	GGACTGCTCG	TGGGCACCTC	ATGGGCTTTC	GTCTTGAGTG	GGGGCCTCAG
60701	CCCTTCTCAC	TCAGCCAGAA	CTTGCTGCAG	TGGGGTCACT	GACACAGCTT
60751	GGGGTGCTCA	GGGCTTTAAA	GAGGTTCAAG	ACTTCGTAAT	ATTTTCATGCA
60801	GTAAATTCCT	TTCAAGCATG	TGAACGCTGT	GAGCTCCTAT	GTGTTGTATG
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60901	AAAGATGGTG	AGATAGAGAT	TATTCCTTGC	TATCCAGCCC	TTATTGAAAC
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61051	CTACCAGGAA	TAGATTCTCT	TGGCATAACA	AAGGCATTGA	GAAGCATCAT
61101	CAGCTACTGA	GTGAACAGGA	GGACTGTAAA	AGGTTCACCA	CGAAGTACCT
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61201	GCTTGAATGG	TACCAGAAAA	GAATTTCTAC	GTCCTGGTGC	AGAATTCCAC
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61351	ACATGCACAT	TTTAATATCA	CTGTAGGTCA	TTTGCCAATA	CGACTGAAAA
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61451	AACGTGAAAT	GTTTTGAAGT	TATTATGATT	GCATATATTT	TCTTAGGCGG
61501	TAAGGAAGAT	TTGGAAGTCA	AAATAGCATC	AGGGCAGCCC	TAAGTGAAGA
61551	AGGATATTTT	ACTCCGCTAG	CAAATGAAAT	ATTTTTTCAGG	TAGACTGCAC
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61751	TTTTTACTTC	AGACAGAGAA	AGTAGTCATA	TGGATTGTGT	GCTCGTGGGC
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61851	ATCCTGTTCA	GAGCAGTTTG	TGTAAGGTGC	ACAGAAGTGC	GTGTCTGTGT
61901	TGAGCGAGTG	CAGAAAGGCA	TTTTTAAAGGA	TGATTTTACA	TGTGCTCCTT
61951	TGACCTGTTG	TTCCAAGTGA	CTCCCTCAGC	AGCAGTCCCA	GGTCTTCTTA
62001	TTTGTTTTTCA	CTGTCTTTTG	CCACCATTTT	GCCCAAAGCT	CCCTCCTCCT
62051	TTGATGTATG	CGGAGTCCAT	CGTTTCTAGC	AAGCTTGACT	TTTCTGGTTA
62101	TTAGTTGCTT	TTATATGTGA	GAAGTTGTGA	CCACAGGAGT	GACACAGGAA
62151	TGATGCTTGT	AGTGCTGACT	GGCACTGAGT	TCTCACTTTT	ACACCCAGAA
62201	AAACTCTGAG	AACACTTCCC	AAACCTCACT	CTGACACCAG	CTTGATTCCCT
62251	GCTGACACTG	TAAAATGGGA	TCTCCAGGGG	TAAGCTTCGT	TACCAAGCAT
62301	CTTGGGACAC	TGCCAGTGTC	AAGGGAGATG	GACAGACCCA	TTCTGCTTGA
62351	AAAGCATCTT	ACAGGGATCC	TTTACATGTT	GTAAACATCC	TTCTTTTTCAT
62401	TTTTATTTGG	GGATAACTTT	CTCTGGTGCT	GTATATTTAA	TTTTTTTTTCC
62451	TCCTCAAGAT	GAATTGCTTT	CCTTGCGTTC	GGAGGCAATT	AGGAAATACT
62501	TTGTTGCTGA	TACCAACAGT	CAGAGCACTG	TGTGAGGGCA	CACTGCTGGG
62551	TAAGTGTGTT	TTTCAAATTT	GGATTTAAAA	AGTCTTGATT	TTATGCCATT
62601	ATCCTTTTTT	CACTTAATTA	GATTGTGCAT	TATATTTTCA	TAACCTTTTG
62651	TACAGCGTCT	TTTAGCTAAA	ATTAAGCCAG	GTGCCTTACT	AAATATATAG
62701	AACATATACC	TATGTAAGTT	AATGAAAACA	AAGACGTGAA	GGCCTTTTCT
62751	AATCAAACAG	ATTTTACATG	GAAATCAAAG	TTTTCTCAGC	TGTGTTGCAG
62801	AAAAAAAATA	CCCCCTGTG	CTGTTACTCC	TATAAAAACG	TGTGAATACC
62851	ACAGATTATT	TTGGAAATCT	CTACTCTCAA	CTACCAAAAC	TGCCACAGCA
62901	TCTCGATACA	TTGATGTCTG	ATGTTTCAGC	AAGTTTGGAC	AGTATGACAC
62951	ATGCTCTTGA	ATGCAGATTT	TTGTCAATCA	AAACACCATT	CCAAACAGGG
63001	ATGAGTATGA	GCGGTCAGAA	CAGGTTGTCC	TTGCTCTGGA	GACAGTTCCC
63051	TGCCACATG	TCCCCTCTTC	CCTTCTCTGT	CTTCTCTTAC	CTAACTGCTG
63101	TCATCTGGTG	AGATCTTTAC	TCATCTGATG	CAACCTAGAA	TGCAAAAGGT

63151	ATGAACTAGG	TAAATGTTTA	AGACTGCAGT	ATTAAGTAGG	CATTTGAGAG
63201	AAATCTCTGT	CCTTAAGGTG	CTTCTTGGA	GATCAGCAAA	CCTCTCACCG
63251	AGGTAATGCT	TCAGATAATG	CTACAGACTT	TCCTGTTTGC	GTCTTCTGTG
63301	TCAGAGCCTG	AAACGTTATT	GCAAATAGAT	GTCTGGATAA	GAACAGAACT
63351	GTTAAAATCA	CCTTGCCATG	CCATATAAGT	TCCAATATTT	TGCCATTTTTT
63401	TTTCCTGGGC	AGGGAACATG	TTGAAGAAAG	TTTTTGAGTT	CTGTTGGAAG
63451	TCTTTCCCTT	TTGAAGTCCC	TTGCAGTATT	CATCTTTTCC	TTTTCCCTTCT
63501	GTCTCTTTCA	ATAGACAGAG	CTGCTGAGCA	CCAATTTATC	AGATTGTCTT
63551	TCCCCTTCTT	TAGGGACATG	TGATTCTGGG	GATAGAAGAC	AGTCAAACCTC
63601	ACTGTGCCAA	AGGAGTTACC	GTCTTCCATA	TTTGTGCTGC	TCTTAAGCTC
63651	GATGCGATAT	TGACTGAAAT	TCTGTGGTTT	CCCTTTGTTG	TCTTTAATCT
63701	ACACCAATGG	AGTTACACCG	AAGTGCAGTT	TTAGATCTAT	GAAAGCAGTC
63751	TGGAAGATCG	AATATTCGGT	GTCATTCCCA	GAACGTGGTC	CAGAACATCT
63801	GTGCTTTGGC	ACCACCTTTT	CCATTCTCTG	CTGCATAGAT	CAGCTAACAG
63851	CCCTACGGCA	ATTGCAGTTA	CTCTGAACTG	CTAGGAAAAT	ATTTGCAGTC
63901	ATCATTGTAA	GTGATGAGTG	GGCACATAGC	AGTATTTATG	TAGGAGGCTA
63951	AGTACTTAGA	GTTTCTAGGA	TGATCTCAAC	CTACAGGACC	GGACAGCTTT
64001	CTGGAGAGTT	CTAGCAAGGG	TAAGGAGAAC	AGGGAATCAC	CTCTTAGAGA
64051	GAGGACATGC	CACAGCTAAA	GCTTTAATGA	ACAATTAGAT	GTGAAGCAAG
64101	AGACAGGAAA	GATGATTGTG	AGACTTTTAA	AAGCCTATCA	AAGCACTAGG
64151	AGAGCCCAAA	GCATAGGCAA	AGTACCTTAT	AAGTTGGCAC	ATCTGAAGAG
64201	TATCAATTAA	AAACATATTA	AATCCATATG	TTATCCGATG	TGATTCAATA
64251	TGTGTGGGTC	ACCCTGACCA	ACCCAGATTT	CTCCACGTAT	GTCTGGTAAT
64301	ACTGGCTCTA	CGTAGCACGC	AGAACTGCCA	GCTGTCACTT	GAAGGTAAGG
64351	GCTTCTACTG	AGCCACTCGC	ATTACCTTGG	TTGGGCATGG	ATGAGAGACT
64401	CCTCAAAAGC	TGCTGGTGGT	GTCTGAGACT	GGGCAGGATT	GGTCAGGCCT
64451	TTCTCGCCTC	CCAGCGTAGG	TTCAAGCTGC	CCAGTCCCCA	AACTGGTGTG
64501	CAGCCTCCTT	CAGCAAGGAA	ATCAGTGACC	TGCCAGCCTC	ACTGCAACAG
64551	GAGCTCACTC	TGTGGGTCAT	CTCTATCCTT	TTCTGTTTCA	GGATGACGAT

U gene exon 1

64601	GGATGCTCTG	CAACTAGCAA	ACACTGCCTT	TGCTGTTGAT	ATGTTCAAAA
64651	AGCTATGCGA	GAAGGACAGA	ACAGCCAATA	TTGTGTTTGC	CCCCTGTGT
64701	ACCTCCACAT	CTTTGGCTCT	GGCATATAAA	GCTACAAAGG	GTGACACTGC
64751	AGACCAAATG	AAAAAGGTGA	GCTGTCCGCA	TCCTGCTGTG	TAGCTGCAAA
64801	ATTGTCAGAG	GTGGCTTTCC	TATTTATTCC	TCTTAATGCT	GTATAGGACT
64851	GCTGGTTCCC	TTGTAAGCCA	GGCAGAAAAC	TGTCCATCCA	AAATTCCAGA
64901	ATATTTCCCC	ACTCCATGGC	TCCACACAAC	CAAAGAGGCT	GAAAATCACT
64951	AGCATAGGGA	AAAAAGCTTT	CTCAAGCATT	TACAAGGTGG	ATGGGGACAT
65001	GGCAGAGTCC	TCAGCAGTTG	TATTAAGGCC	TTGTCTCCTT	TCAGCAGGAA
65051	TGCTGATTGT	GGCTGAAGGT	GACTGCTGAA	GTCAGTGCAT	TTTCTGGATA
65101	ATTGTTTAGT	GATTATTCAG	GACTGCCTAA	GCTTAACAGG	ACTGGAAATA
65151	ATTTTGCCAT	TACCAAGTAA	TTTTAGCAGT	TCTGTCTGTG	CCATTTCCCC
65201	TTTCTCCTGC	CATACAGCTA	AGAGGAAGAT	AATGCAGTAG	GAGGCAGCTC
65251	AGCTTGAGTA	GTAGTTTGCC	TTGCAAATAG	CTCTAGATGC	TCAAGGGTTT
65301	TACAGCACCA	CGAAGCAGCA	TCATGGTGAT	GGTGCAATGA	GTTTATCAAG
65351	GTTGCTCTGT	GGCGGTGAGA	GGCTGCACGA	CTGCCTCTGT	GAGAGCCAGG
65401	ATTTACACAG	CCTCTTTTTA	TTCCAGTGCC	CACAGTCTCA	GCAGTTACCT
65451	AGAGGTGAAT	GAGAAGCAAA	TTCAGCATGC	ATTTATATGC	TGATTATCAC
65501	CTGGCTCTCA	GGGGCATTCC	ATGTATTTGA	ATACATTTTT	CTTCGTTTGA
65551	CAGTTCCCTC	TTGTACCTTT	GGTTTCCCTG	ACGGCACATT	GCTGGAGCAC
65601	AGCCTCTGGC	GCCTCTGCTC	ATCCTACAGA	TTGCAATGAG	TCTATTTGCA
65651	CAGAAACAAA	GTGGTATATC	CACAAAGGCC	TGCTGGGTGT	TTTCCCAAAT
65701	AGGATTATTT	TAAAAAATA	AAAATAAAAA	TGATTTTTAG	ATCTTATTTT
65751	TAGTTTAAAT	GACACCCCAA	AGCTTCCTTG	TCATTTCAAA	GTTCAAGCAC

65801 TGTCTTTGCA ATGGAAGAGC TTAAAACATT AACCTGTGCT TAATTTCACT
 65851 TTCACCTGTG CCTGCAATTT GCATTGAACC GTCCCACAAT AAGTGAACAT
 65901 CCACATCCAC AAATAGGGTT CTGTTACACA AGTGCACTTA TGTTTCACAT
 65951 TTCTCAAGGT AATTTACTGT GCCTGTAAAG ACATGGTGTG TTCAGGGAGA
 66001 AAGAGCAGGA GTGAGGCTGA AAGGGAAAAG GAGGTCACTG ATGCTGGTTG
 66051 GGAAAGATGA GAAGGGTTGG GCAGGCTGTT TTTAATGGAA CATGCACTCT
 66101 CAGAGACCTT GCAACAGGCA GGCACCTAAA AGCAGAGAGG TTTAGGTCAT
 66151 GCTAGAATAT CCTGGAAGT GGCATGTGAT TTCCCGGAGC TGGGAGGTGG
 66201 GTCAGCAGCC TTACCTCTAA CTTACGTTCT GTCTGCCAAA GCTCACCTGC
 66251 TTATCTGACT GATTTCTACT GAAATACCAC ATGACATCAT GTGTCAATAA
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 66351 CCAGAAAGGA AACTAAGTGG AACATTTATT TATCTGGCCT CTAAACTCCA
 66401 GATTTTTTGA CAAGAATGTG AGTTTGATAA AAGCATGACT CCACGCTGCA
 66451 GATATGTAGT TCACTAAATC ACTTTGCTAG TATGAACAGC TCTATGGAA
 66501 TCTTTGGACT GCTCACAGGA AGGAAACACA TTTGGTTAAA GTTTTGATAG
 66551 GATCAAGTTT TTAGATTTAT GTGGGGATGT CAAATAAATT AATTTTTTTT
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 66651 AGTCAAAGCT CTGGTCACAA ACAAGCATT TTTATTGCCA AGCTGTCAGG
 66701 CCTGGAGCAT GTCCAGAGAA GGACAACAAA GCTGTGAAGG GTCTGGAACA
 66751 CAGATCTTAC AGGAGAGCAG CTGAGGAAAC TGGGATTGTT CAGTTTGGAG
 66801 AAGGAGAGGC TCAGGGGAGA CCTTATCCCT CTCTACAAC GCATGAGAGG
 66851 AGGCTGTGGT GAGCTTGGGG CTGACCTCTT CTCCCAGGTA GCATTAATAG

CR1-L

66901 AATGAGAGGC CGTGTCTCTCA AGTTGCACCA GAGGAGGTTT AGGTTGGATA
 66951 TGAGGAAATT TTTCTTTTTT TGAAAGAGCA GTGAGATATT GGAACAGGCT
 67001 ACCCAGGGAG CTGTTCAAGA ACTGTGTACA TGTGGCACTG TGGGATATGG
 67051 TTTAGCGGGC ACAGTGGTGG TGGGTTGACA GTTGGACTAG ATCATCCCAG
 67101 AGGTCATTTT CAACCTTAAT GATACTATGA TGCTATGAGT TTTTAGATAA
 67151 TAAAAAGAAA GGTGCTCAGT ATTTTATCTT GTTCATTATC AGGTGCTCCA

U gene exon 2

67201 TTTACAAGAC GTCAAAGATG TTTCTTTTGG GTTTCAAACG GTAAGTGCAG
 67251 ATGTTTCCAA ACTCACCTCT TTCTTTGCAC TGAAAATGGT CAAGCGGCTC
 67301 TTTGTAGACA AGTCGCTCAG CCCTACCACA GTAAGTACTG CAGAAAAGTG
 67351 CTTGAATTGC TCGACCAACC AGACTTCAAT GTTATTCAAA ATACGTTCTC
 67401 TCACTATTAG CTTTTACTTG ACTAGACTCA GATGATGAAC AGCATAATAA
 67451 GAGTTTGTAG GAGGATGATT GTTCTGCTTG ACCCCAAGCA ATGCAGCCAC
 67501 TGCTAGAGTT GCAATTCCTT CATTAATATG TTTTAGGTCA GTAGGCGCAG
 67551 TAGGTTTTGA ATGCAATATG ACTTCTATGC CACATCAAGG GCTTTGCAAT
 67601 ATAAGTATGA CTGGGAAGGA TTTTAAATAA AGATGGTGGT GCAAGTGTGT
 67651 TAGTCCACA CACCCAAGTA ATTACTGCAT AAAGAGTAGT TTTCTTAATC
 67701 TAACTGAGGA GGCACAAGCC TGTTTATTCA AACAACACAA GTGAGGAAAG
 67751 TGTTGTTTGG CCATGAAACT TAAGGACCTT GCAAACAAC GAGAAAAATG
 67801 TTGTGTTTGT TTTATCAGAG TTGCCTTTGA ATAGGGCCCC AAGCAAGGGC
 67851 AACTTCAGCC TAGAAGTGAT GTTTCAGAAG ACTCACAGCC TGCTTGAATG
 67901 GTGTTATAAT CAGGTTGCCT GCTTTTGGC CCCATCCACA GCAGTGAGCA
 67951 TCTCACCTGA CAAGGATAGG CACACTGTGA GCAGCCTGTG GCCTTTGTCT
 68001 CATCCCTTTC TTTTGCCCAG GTGTAGACTG AAGGCTACTT TATCCTTTCA
 68051 AACTCAGGCA ACATGTTTAC TCCTGCAGTA CGAAAGGTAC TTTAGCAGCC
 68101 AGTATAACTG TATTGAAGAC AGTCTTGGGA GCAATCTGCT GAATGCGGCT
 68151 GCGTGTCTCT GCTGTCACCT GCTGTTACTT ATTAGCTGTC CTTTGTAATA
 68201 TACTCTCTGC CTACACCGTA ATGAAGCTTG GGATACTGGT TTTGTAGGCC
 68251 GTGTGGAGAG TCATCTAGTG AAGAACATCT AAGGAAGGTT AGCTTTGGTA

U gene exon 3

68301 CCTTGTGTCT TTCAGGACTT TGTTAACTCC ACAAAGAGGC CTTTTCCATC

68351	AGAGCTGGAA	CTAGTGGAGT	TCAAGGAAAA	AACTGAGGAA	ACACGGCAGA
68401	AGATCAACAA	ATCTCTCTCA	GAGCTAACTG	ATGGTGAGTA	GGGCCTAACC
68451	TCGGGGATGC	TGATTACCTC	TTTGAAGAAT	GATGTCTTTG	TCTTCATGAC
68501	ATCTCCTAAC	TATTGCTTTT	AGAAGTAAAT	ATACAGTGAA	AGCAAAGGGA
68551	CTGCACCTAT	TATTTGGATT	CATGAGGATT	AGCTGTGTTA	GCATGTTTTA
68601	AAATCATTTA	CTTTACTACT	GTGGCATTTC	TGGAGGCAGA	CCTTACATTA
68651	GCCTTTGGCA	AAGCATCTCA	TTTGTTTTCA	TTGGGAAAGT	TTGGCTCCTG
68701	GCTGCAGAGC	TTCACAAACA	TCTGACATCA	ATACATCAAA	TCCTGGCCCC
68751	GTTCTCTAAT	GGAGAGTATG	TGCTGAACTC	TGAATTTTCA	GCTGTTAATT
68801	AGTAGCTCAT	CTCAGCAGCA	CAGCTGATTT	TGACCACAGG	TGGACATGTG
68851	TTTCTTACTT	GGAAACACTC	CCGTGGCAAT	AGTTCTGCAG	CACTTTTCCT
68901	GCAGTACCAC	TGAGCCACTA	AGTCACAAGA	AGTGCCTCTC	AGTGACCATC
68951	AAGGCTCCCA	GGCAGAACCT	GCCAGTCTG	TGCAGGGTAG	AGGTCTGGTA
69001	CGCAGTCCCC	AAGGCAGAGC	TCATGTACAT	GCTGTCCATA	GGTAGCTCCA
69051	GGGTGTTGTT	CTGCCTATTG	CCCTCATGTG	GTACACATAT	GAAAATATGG
69101	GTGCCTGAGT	TACATCTGCT	CCATCCCGAG	GTGACACAGG	TGCCCCACAGG
69151	GAAGTACTTT	GCGCTGCCTG	TGTGATTTGT	GCATGAATGA	AGACTAACAT
69201	CCACAACACT	GTGGATTGAG	TGCCTCATGA	CAGTGTTTGA	ACAGACACAA
69251	AATAAAGCAA	GGGAAAGAAT	TACGTTCTCT	TTTTGAAATC	CATGGCACTA
69301	TTTGGTTATG	AACTGTAATT	AGATGGTTAG	CGGCATTTCT	TATTCGGGTT
69351	TATTCTTATG	TATCACTCCA	AAAGTGAGTA	GAAGCTAAAC	TGGAACCTCC
69401	CTTGAAGTCT	CGCTCTCCAA	ATGAGAAATA	TTTTTTTTCAG	TTCTACCTGC
69451	TGAATTTTCG	TGAAGTTTCA	GTACCTTCTT	TAAAGTACTA	AAGAAAAGCA
69501	GTAGACATAT	TTTTTATTCT	GTTTTATGTA	AACCGAGTAA	AAATGTCACT
69551	TGGAAGATCT	GTCTTGATCC	CAAATTCCAT	TTTAAACATG	GAGCTGCAGC
69601	TAAGGAACTA	AATGCTTCTA	TTTGGGGATT	TCCCTTTATA	ATTAAAACTG
69651	CTATCTGTGA	GGTGCAGGGC	AGAAATATTT	TAATTCAGTA	CAGTGTTTCC
69701	ATGTTCTGTG	AAAACAGCAC	ATATGTTGAT	AATTTACTGT	ATTAATGACC

U gene exon 4

69751	AGCTTAACCA	TCTTCACAGG	CAAAATGGAG	AATATTCTGA	ATGAGGACAG
69801	TGTAAGTGAC	CAGACTCAGA	TCCTCCTAGT	TAATGCAGCT	TATTTTGTCA
69851	CAAACCTGGAT	GAAGAAGTTC	CCAGAAGCAG	AGATCAAGGA	ATGTCCTTTT
69901	AAAGTCAACA	AGGTACGTCC	TGAAATAAAA	TAGAGTACAC	CTTCTACTCA
69951	GATGAATGTT	TGCCAATTTT	GTGCTAAGGA	AATTTTCAGT	AGAGCAAGTG
70001	AAAAATATTT	GTTACTACTA	TGGCATTCTT	AGACTCTCTG	TCAAAACCTA
70051	TGTGCTGTTG	CAAAAGTACC	TAAGCCAGTT	TTCTTGTTAC	GTTGCTAGTT
70101	TGAAGCTGTT	GGTGAAACAA	GCACTAAAGG	TCACCGATAG	TAGGTAATTC
70151	TTTCCTTTAA	AGCACATCCC	CAGTATATTG	TATTAAGTAC	ACCTTGTCAC
70201	ATGAAAACCTG	CTCCCCTTAA	AGTACCAACA	GCTTTCACCTA	GCAGTCTTAC
70251	AGCTGATATC	GTTACTTACA	GAAGCCAACA	AATTCCATGA	TGGTAATCAA
70301	TGTACCACTT	TCATGCAAGC	TTGCAAAAGT	TCCTCTCTCA	TCTTCTCTGT
70351	GAATTAAAAG	GAGTGCTAGA	TTGTCTCCTC	TTGTGTTTTG	CAGACTGAAA

U gene exon 5

70401	CTAAGCCAGT	GCAAATGATG	AATCTGGAAG	CTACTTTTTG	CCTGGGTTAT
70451	GTGAAAGAGT	TGAATGTTGC	AATCCTTGAA	CTTCCATGCC	TTAACAAACA
70501	TATAAGCATG	CTCATTCTGC	TTCCCAAAGA	CATTGAAGAT	GAAACGACTG
70551	GCCTGGAAAA	GGTGAGAGAA	AAAAACAGTA	CTGAGATGAT	GCTTTCATG
70601	CACAGCTGTG	TCGGTTAGCT	GTGGGTAGCT	TGGGTAGGGA	CTGTCTTCCT
70651	TGAATTCCTT	CATTGGGTTG	TTGAGCTGAT	TACATAGCAA	ACGCTTGTTA
70701	AGAACCAGTA	ATCAGAGTAT	GCACATTTAG	TGGAGTTTCT	CTGGAAGTCT
70751	ACTCTATAGG	TTAAATAATC	ATTATATCAA	TATAACTGAG	AGTGTAAGTT
70801	AACTCTGAAT	GCTACAAGCA	AAAGTTGTCT	TTTGGACTTT	GTTTTTTTGG
70851	GGTTTGATAG	GACTGATGAG	TTCAGAAAATG	GTCTTTTTGT	TCCCACTTTC
70901	TCTGGACTGC	ACATTAATTT	CCTTTGTTCT	TTATGTCCTC	AGCTGGAAAA

U gene exon 6

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70951 GGCACCTCACC CCTGAGACAT TATTACAGTG GACCAATCCC AGCATGATGG
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71151 TGTCAAAGAT CATTCATAAA GTCTCCTTGG AAGTAAATGA ACAGGGTGGA
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71251 TAAAGCTGAC CATCCGTTTA TCTTTTGTG TAGGCACAAC AAAACTCGCA
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71351 TATGAAAAAG ACCATAAATT TATGGTGATG CATGTTCTCTG TAAAGCTTGG
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72451 ATAGGAACAG AAATTGGTAG ATTCATTGAG GACACAGTTA AAATAAATAT
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73551 AATCCAGCTC ATACTCCATT TAAATGCTGA TCAGAACACT TAGTGCATCC

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73601 ACGTACGTTT CCAGAGAGCT CCTTGTGGT GCCTTTGCCA AGGAGGGCTA
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CR1 - GG

74851 CGGTTTTGAG CCTTAGGTAT GTTACATGTG CAAGTGTAGA GTCCCTACACC
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CR1 - b

75401 CAACAAGAGG AAGTACTTCT CTACTTTGAG GGTAACAGAG GACTGGAACA
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 75501 TGCCTGGATG CTTTCCTGTG CAACCTACTC TAGGGAGCTT CTGTAGGAGT
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76201 TCTCTAATTA AAATCCTTCC ACTCACAGAA AGCTGGCTCT GTACCTGAAT
 MAR (0.81)
 76251 GCGTGCCTAC TACCTGTAGG CAACATAAAG CTCATGCATT TCCTATTTCAT
 76301 TTGCTCTATT TCTGCAAGCA AGCTCAGCCC CAAACAAGGG ATCTCTAAAT
 76351 CCTAGCAAGA ACCCTGCACA CCCAGTGTT CAAGTCCTGA CACCACCAAA
 76401 TTCAAAAGGA ACTACACACA GCACCACAGC CATGGATCTC CAGTGTTAAT
 76451 GCTGTTCTCC AGCTAAGGGC GACTTGGCTT TGCAGTCAGG AGATGTTGCC
 76501 AGGATGCCTC CTGTCAAACCT AGTTGGGCAG CTTTGAGCGA AATGCTGTTA
 76551 GCACATTGCT AGATATAGGT TTCCTGGTCT TCTGCAGGAA ACTGAAGGAT
 76601 GACATTTGCA TGAAATTACA ACGTGCAGCC TTTATCAACA ATTGGCTAGA
 76651 GACTGAATTT TCCCACAAGA AAGTGAAGA AATTTAAAT AGAGTATACA
 76701 CAGGAAGGTG CTCCAGAGCT CAGCTGTTGT GTTCTTCATT TGACCTCCTT
 76751 GCTCAAGAAG GTAAACATTA TTTTCTCTT CAAAAATAAC TTGTCTTGTT
 76801 GTTGTTGTTG TTTTGGCCAA ATCAGTCTAA AAGTTGGTAA ATTTTCATT
 76851 TATAGATGGG GCAAAGGGGG AAGTACTTTC ACAGGCTGGA GAGAGCAAAA
 76901 GACACTGCTA AAATTTGGGT GGTCTTCACG AAGGGAGGTG GTCTTCTCTG
 76951 GGGTGAGGCT GGAATTTAG GAACACATGC CCAAAGCTAT GAATCTAAAG
 77001 ATGCCTGTCT AAATTCCTCA GACTTTTGAC TGAAATTTCC CTCGGTTCTC
 77051 CCTGCCTGCT TGGAGAGCTA TAACTGCCAC AGACTGAGTG GTTTATACCA
 77101 CATGCAGATG CTTTGCTGCC TACATCTCCA GAAGGGTCAA AGGGCTGTTT
 77151 TAGAACAGCC CAACTCACTC TAAAAAATG GGCTTTATGA GAAGCGATGG
 77201 TGCAGATCAT CTGGATAAAC TCACCCATAA ATTAATAGAA ACAGGTTAAT
 77251 TTTCTTCTT TACTCAGGTT TCCACAGCAC AAGGAAAAGC CTTGAAATGT
 77301 TCACTAGACA AGAGAGGGCA CGCAACTCTT TGGTTGCGTG CTTGGGTGTT
 77351 TCCTCTGTAC CCTGGTCTCT GCTGCTAGGA TTGTTTATGT TCTTAAACAA
 77401 TGGCTGTATA TAATAGGAAG GGTGGAGTAT TCTTCAGATT TTGTTTGGT
 77451 AATGGGATG CTTCACTATC AACATATTTG CTCCTGGCTT TGGCAGCGGT
 77501 TTTCAAAAAT TTGCTGAGAA GTTTATGTAA CTACACATTG GCATAACAAA
 77551 TAGCTTGCCA CTGTATGGCC AATGTACATC CATTCCTGTT CAAGCAGGAA
 77601 TAATCAGCCT AGAAAGAAGC AGGAAAGATA CATCCTGGAG GTACCGATGC
 77651 AAAATAATAG AACCAGTCAG GAAAAGCCCT TTCCTGTATA AAAACAGCAT
 77701 CATGAGGGGC TAAGTTGCTT GGGAGATGGA CTTGGCAACA CTTCTCCTGA
 77751 AAAGATATTT TGTGCTGAAA TGTATTGGGT TTTAATTTAA AGCACATTGC
 77801 TTTGGAAATG CTTTGTGTTG CATGGGGAAG ACTCGAATTT CTGCGTTAAA
 77851 GGAAATTTCA TTTTCTTAT GTGTTGTGTC CTTTAAACC CAAAAAGCCA
 77901 CAGAAACACT TTGAAAGTTT TTGTATGAAT GGTCATGAAA AATAACTTCT
 77951 ACAACCATAG GCTTTTCATG TGAGGACACT GTATTATCTG TTGTGTTCTC
 78001 CTTTTCTAGG ATAGACACGT ATCATTTCCT CCAATTCTCT CTCCTTTTGC
 78051 TTATGAGAAA TAAATGTATA TTAAAGCACT TAAATGAGAA GAAGAGTAAG
 78101 TATGCAATTG GAATTATCAT GCAGCATCAG GGAAAACAGG TTTCTTCTTG
 78151 CTTTCCCTTT CTACATATAG AACTGCCTTA CAAACCAGGC TACCACTCTT
 78201 TCAGAATCTG CATTTTATTT ACTGCCTCCT CCGTTGACT GCATAATGTA
 78251 ACATACCACA TCTTTTAATT ATGATAGCTT TGAGCGCAGC TTTTCATTCT
 78301 TCAGTAAGTT TTGCCTTGAT TTCATCTTTA GCCTAAAACA AGCTCTACAG
 78351 AGAGAACAGA GCGTGAACAG CTATAGAAAA GGAGTATTTT TCACCTCACG
 78401 GAGCCATGGA AGCAATTTGT TATCCTTACA AGACTTCTGG TATACAGTGG
 78451 TATCTACGGA AGGAGGCTCT TTTCTGGGT AGATCCCTGC TCACATATAA
 78501 CAACGCCAGC AATTCACCT CCCAGACTGT TAACAGCTAC TGAGCCATCA
 78551 TGCAAAGCAT CTCCCTTCAT CAGCCATAAA ACCACAGCCC TGCTTGCTGC
 78601 CTCTGCACAA TTGCTAATGT TCTGTGCAAA CAGTTTGTCT GGTGCAGAAC
 78651 AACAGCTGTG ATCTTCTGG AACACTTCTT TTGATCTTGT ATTTCTCTC
 78701 CTTCCCACTC CAAGATCTTT TAAAAAGAACC ATTTCCATTT GTTGCCCAAC
 78751 ATCTAGGTGT TCTCAAAGTT ACTCTGCCCT CACGGTGGCT CCAAAACTCA
 78801 CCAACAAATG ATTACAGAGA TCATAAGCAT GGCTTAATGA TGTGGAATCA

78851	TACCTACACA	TACTCCCTCT	CCAAATATCC	ATTAAGAAAG	TTCACTAAAT
78901	CCTTTGGTTC	TCTAGTAAGA	AAGTTCCTTC	TCCAGCCCAC	ATCCCTTCTC
78951	CCTCCACTGT	TGCATTGCTT	TTCTGGGGCA	GCCCTGTAAA	TAGCTCACAT
79001	GAAGCCATGG	AATTGGTGGC	AGTGGTTGTA	CCTGGACGTC	ACTCTGAAGA
79051	CAGTCTGCTG	CTTTTTCTAA	AGGCATGGAC	ACCTCTGTAC	GCCAGACGCT
79101	TGCCTTTAAG	ACCTGTTTCC	AGCTCTCATG	CTCTCCCTCT	GTGCTTGGTG
79151	GTTGGTTCTT	TCCCTGTGGG	TTGGGGTGGG	GGTGCCTCTC	TTCTGTTGAG
79201	GAAGTTCATT	AGCTCCTGTT	GTCTCCTCGA	CGCCTTCTGA	GGTCTAGACA
79251	CACCTACAAC	ATGCATCCTG	ACCTACATTC	ACAGTAAACA	ACCTCTTAGA
79301	TCCATTTTAG	ATCTTTTACC	AGCTGTGAAA	GTGGAGCAAC	ACAAACTTTA
79351	ACATGAAAGA	AGTGCTGAGT	TTTGTTTTC	GAAGGTTGTG	AATAATAGCT
79401	AACGAGGGTG	GAAGAAAAGA	GAAATGATTA	CTGCAATGTG	TTTTTCTTGT
79451	GGTAGGATGA	CTGCCCATTT	ATGTTAGGCC	TTCATATGAA	GTACTACTGG
79501	ACTTCAGGGT	GAAACAAGTG	TCTTAGAATG	AAACATATAT	GAACTTTTTA
79551	TTTCAAGTTA	GGTAAAAGGA	AATAAATGCC	TGCACTTGCC	ACATATCAGC
79601	ACCTTCATAT	GTTCAGCAAC	TTGACTTTCC	TGTCAATCTA	TCTTAGGCTA
79651	AGCCTTTTTT	CTTGTGGGCT	GAGTTCATTC	CCATTGTCTG	GGACTTGCTG
79701	CAAGCTAAGC	TGCTCGCACA	GACAACTTGC	TGCACCTCAG	CAGAGCCATA
79751	GCAACTTCTT	ACACCCTGTT	AACTTTGGTG	CCTGAGCCCC	CACTTGTCAT
79801	ACAAAGATCC	TGCCTGTCTC	ACACCTGAAT	GAGAGGCAGT	GTGTGTTCCG
79851	CATCCTTGCA	GTCAGTGCAG	GACGCTGAGT	AGTTCTTGTC	CCAGAGCAGG
79901	CTGAAAGCTA	GAGCCACCCT	GACCTGAGTG	CTTTCTCTCC	ACACTGTGCT
79951	ATATATTTTC	CCCTAAATAA	AATATCTTTC	TGGAACACAG	GCCACAGTTA
80001	CTTATGTCTG	CAAGCAGCCA	AGAGCATATG	CTTTGCTTTT	CTTACATATT
80051	TCTGGTGTGC	TGTCCAGAAC	ATCCTTTGTT	TGACACTAAA	ATTGATGTGT
80101	GCTTTTTTATG	GTACAATATT	TTGAGAAAAA	CTTGAGTACT	CCACTGCTAT

MAR

80151	CCACACAACA	GCTTTACAGT	TATTTCCCTA	AAGGACTGAT	AAGGGCTTCT
80201	TAAAAGCCTT	TTTTTTTTTT	TTCAGATGGC	ATTCTTCATG	AAAAGACCAA
80251	GCTGAAACTT	AGTCCCAAAT	TCTTCTTACC	AGAGTGGATT	TAATGGCCCA
80301	TAGGAAAGGC	ATCAGACTGC	TGTATTTACA	GTACAAGAGA	AAAGAATGAG
80351	ACAGATCTTG	TCCTGCCATT	GAACAGGAAG	CTTACAGACT	TTCTGGGGCT
80401	GCTGAGCTAT	TGCTTCGTTG	TGAAATTGCC	ATTCTGTTATC	CATTCTGAAT
80451	CAGTGGTTCC	TATCAAATCA	ATGAGGAGAC	ATGAAGTATA	CTGCAAACAG
80501	TGCATGTTTC	CATAGGTAGT	AGCATTCATA	GCTGCTTACG	TTCTTCTTTC
80551	ATACATGAAA	ATAATTACTA	GTAATTTTAC	TTTCATGAAT	CTGTTGTTTG
80601	AATCCTTCAC	ACTGCAGCTC	AGGTTACCAG	ATGTGGTTAG	ATGCCCCGTG
80651	AGTTTCTGTC	ACCCCAATCT	GTCTCTAATC	ATGTTGTTAC	AAGAGGAAAG
80701	AACTGATGCG	ATGACACACA	TTAAACTAGT	TTGTAGAAGG	AAATCCACGG
80751	CTGACTGATT	TAAATACCAC	AACCTTTTGC	TTACAAATAA	GAACAAGACA
80801	GACAGACCAC	GGGAAACTCT	TTTGGAAGGG	ATCAGATACA	TTGTGGGATA
80851	AGATGGAAAA	ACAATTCTCT	CTAAGGAATT	CTCATATGGT	ATGAGTATTG
80901	GGGCCCCCTT	CCAGATCCTG	CTGTATTCAC	ATGAGTGTGA	ATTAATAGAT
80951	GTGTGCAAAA	TCAGCTATTT	CAAACCTCAGA	ATTCTAGCACA	CTTCTACTAT
81001	TTAGCAACCG	ACTATGGGAT	GATTTTAGGG	CGGACAGATA	CTTCACAGTA
81051	TGATACAGAT	AAGCAATCAG	CTGATTCACA	TTTCTCCTTT	CCCTTTTTTG

V gene exon 1

81101	TCCCAGTAAG	CTGCAGGCTT	CACAATGGGC	TCCATTTCTA	GAATGATTAT
81151	TGAGTTTTGC	CTTGATCTCT	ACAATAAACT	CAACAGAACA	GCAAAAGGCC
81201	AAAACATTGT	CTTCTCTCCA	ATGAGCATCT	CTACCTCCCT	TGGCCTGATC
81251	CTTCTAGGGG	CACGAAACAA	CAGTCTGCT	CAGATAGAAG	AAGTAAGTAC
81301	TGCTGAAATG	TTCTGAGATA	CTTCCACATA	GCCTGCTGTT	CCCCAGTGG
81351	CAATGCTGGG	CTTGCAGACA	CAACATGTGT	GCTTAGGAGA	CAAAGATAAA
81401	CACAAGCTCA	ACTGCTGCCT	TGAGAGCAGT	GCTTGGTGTG	CTGTGATCCC

81451	TGCTCACTTA	TCAACTGTGA	CATTCAAACG	ATTCAACATG	TCTCACCTAC
81501	AGAGCACACG	GAGCCTGGGG	GTACAGGGTG	GGCATGCAGA	AGTCTGTTCC
81551	TCTGGTCACC	ATGCCTTTTA	CTCCCTGCAG	TGCAAGCTGT	ATGCTCTGAG
81601	ATCTTTTATT	TCTTTTCTTA	TTTGTCTCTG	AGAGCAGTAA	GTGACCAATA
81651	CTCCTAAGGT	ATATGTGGCA	TAAGGCAGTA	GCTGGCTCTG	GCTGTGTCCT
81701	GGTGGATCTT	CATCCATTGT	ATTATAATAT	TGCCACAGGT	CAGCTGCTGC
81751	CAAGGGAAAC	TCATTCTCCT	TATGAGGTTC	TGAGTGACTC	TTGCTTAGTT

CR1 - c

81801	TAGGAAAGCA	ATGGAGATCG	AGTACTCTCA	ACAAGGGGGA	ATGGCGTCTA
81851	ACTAAAAGAG	CGGAAATTTA	GGTAAGATGT	TAGGCATATA	TTCTTTACAC
81901	AGAGGGCAAT	GAGGCACCAG	CACAGGCTTC	CCAGAGAAGC	TGTGGTGCGC
81951	CATCCCTGGA	GGCGCTCAAA	GCCAGGTTGG	ATGGGGCCCT	GGGCAACCTG
82001	ACCTGGTGGT	GGCATCCCTG	CCCACAGCAT	GGGGTTGGGG	CTGAGTGGGC
82051	TTTGAGGTCC	CTTCCAACCC	AAACCTTTCT	ATGACAGTTA	ATAAATCTAC
82101	ATCACTTATC	CAGGACAGCC	CAGTAAATCT	TTCAAACAAG	GAAAATGCCT
82151	TTATCCCAGT	TAAAATTGCC	ATTAATTTGA	CCTCTTCAAC	TGCAGGTTCT
82201	CCACGTCAGC	AATGCCGCAG	GAACTACAAG	CCTTGAATCT	GAGCTTGAAG
82251	GTGCAGTGCC	CGAAAACAAG	TCTGAACTAA	GCCAGGAAAG	AGAGTCTTCC
82301	CCCTCTCTGG	TATGTCTTTT	TTAGTACAAG	AGTCTTTTAC	TCCACAGTAG
82351	CCTATTAGTT	GTAAAGCACC	ACAGCCTGCC	ACAGGAGGGA	GTCAAGATCC
82401	CATGCACAAC	GTCTGCCTGG	TCTACTACGC	CTGATTGAAG	GTGTTCCCTT
82451	GTAATCAGCC	AAGTCCTCCA	TAAAGTCAAA	TACAAAGCCC	CCACCAGAAG
82501	GAAGATCAGG	TTACAAAAC	TAGATTAGCT	GAATTTAAAT	ATAATTACAG
82551	TGGGAGCTAG	CCCTACACTG	CAATCTAATG	AGGATGCAAA	TGAACAACCA
82601	AAGCTATACT	GAGGAATACT	TGTAATTGGT	GTGTTTGAAA	TATTCCTAGT
82651	GCAACACAGA	TGGGAATCTT	AACCACGAAG	CGTTCCATGC	ACTGCTTTTA
82701	CAACTACAAA	ACCTTGSCAA	AGACTATGTT	TTAAGCCTGG	CTAACAGCCT
82751	CTTTATCCAA	CAAGGATTTG	AACCGCATCA	GGTAAGATAA	CTGTACCTTG
82801	TAACCTCTGT	GGCGCTGACC	CCCAGCTTTC	TGGCAACCAT	ATGCTTCACT
82851	GTTGTCCCTC	CATGTGTATT	TTTGAGCATT	GGAGGTGCTT	CTTGGAGCCA
82901	TATCTCTTAG	GGTTGTTGGG	AAAGAGACAG	AAGTATCAGC	TTTCAGTGCT
82951	TCTGTTTAAA	ACAAACAAAC	AAACAAAGTC	AAGACAACAC	TCTGTAGAGC
83001	AAAAATAAAG	CAGAAGACCT	TTGACTTTTG	GCATATCTAA	CTTGAGCCAG
83051	AAGTGCGACT	ACAGCAAAAA	AATGGCCTAT	TCAAGCTGTC	TGCAAGCTGC
83101	TTCTGGGCTA	TCTTCTATT	TGCAGCTTTG	CATTGCTGGC	TTTCCTCTTT
83151	TTCTTCTTTC	TTTCTTTTTT	TTTTTTTTTTC	CCCCTGCTGA	ATGATTTGGA
83201	TACTTGAGAA	TCACCCAACA	CATCTTGCAT	CTTCTCTAAT	TTTTTTTTTCT
83251	TTTCTATTTT	TTTAAATTTT	TATCTGGATA	CCTGCATACT	TCAGGTATGC
83301	AGTTTTCTGT	GGGAAGACAT	TGTCATCTAG	AGGCAAAAAT	GTATATAAAT
83351	AATAAGAAAG	ACACAATAAT	AATCTCTTTT	TCAAAGATTA	TCTGAATCAG
83401	CTTCTGATAG	TTGATGTTTC	CAAAGCCAAA	TTTTGTCTCT	TTCACTCAAG
83451	AAGACCCTCA	GAATTTCTAA	AACGTTTCTG	AATTGTTGAC	TTCATGTTAA
83501	AGAGAATAAG	CTCTGAACAG	GTTTGGCTAA	TTACAATCT	TTATTCTGCT

V gene exon 2

83551	TTACAGAAAT	ATCTAATGTG	CAGTAAGGAA	CTATACAGAG	CAGCCCTTGA
83601	AACAGTGGAC	TTCCAAAGGG	CTCTTGAAGC	AAGCAGGCTA	AAAATTAATG
83651	ATTGGGTTGA	AAGCGAGACA	CAAGGTAAAA	CAGAGCAAAA	CTGTAGCTGT
83701	GCTATCTTCT	CCCTCTTCCA	GTGCTCCTTC	AAAAAGAATT	CAGCATATGA
83751	TAAGTCTTGT	TCATGTTTCT	AGGTTTCTCA	TGCCCGTCAA	AGATAGTTTG
83801	TTGTTCCCAA	TCATTCTTTA	GAGTCATCTA	CCAGCTAAAC	TATTTCTGAG
83851	TTAAAGATGT	GTTTGTGTGC	ACATACTGTC	ATACTCCTAC	CCACATGCCT
83901	AGCAAGATAA	CTGCAACAGT	ACCTCTAAGG	GTTAAATAGA	TTAATTGCTC
83951	CTGCAATAG	CCAACACTGC	AGGTACAGTA	AAGCAGAGGA	CGGAAGTTAT
84001	GAGCGTCACA	GTGAGACTGG	GAACAGCATA	GCAGAGAGAG	AAGACACCTG

84051	AGGACCTGGT	GTTGACCTGC	TCTGGTCGTA	CACAGAGCAA	TGCTAACAAA
84101	GATGAGTGAT	GTGCCCACCA	GAGAGATTTC	ACTGTTACAA	GTAACAACCA
84151	ACCAGCTTTT	GCCCTTTACA	GGCACATAGA	GGTCATTGGC	TTTTTTTCTG
84201	ATTAAGCTGA	ACATGAAATA	TGCCACTTTT	ATTTTGTGAG	AGATGCAACA
84251	TCAGCAGGGT	GAAAACCTTA	TAAATCTTCC	AGCTGAACTT	AAGCCAGAAC
84301	TTACTGAGGG	AAATTACTGA	TGGATGAATA	GATTTGAAGG	CTTCTGATTT
84351	CTTAATGGTC	ATATCCTGAC	CAAACCTGTC	CTTGGGCTGA	CAGAGCAGCC
84401	TGTGACTAAT	GTGGGAAAGA	GCTGCAAACC	CCAGACCATC	ATTGCTCTGT
84451	GTGCCTGTAC	AAAGCCTGCG	CGCTTGGGAA	ATCCTACTTC	ACCTCTGTAC
84501	AGAAAAAATA	AGGGTAAAGG	GAAAGATGCC	CTCATGTAAA	CTGAAACAGA
84551	GGATTAATGG	CGCTGCGCCT	TTTACTGTGG	ACAGGTGCCA	CCTGGAACAT
84601	TCATTTTGCC	ACTGATCCCA	CAGTAGGCTA	ATTTGATGAT	CGGTGCCCCCT
84651	TCCTCTCCCT	AACAGGCCAG	TACTAGGTAA	CAGTGCTGAG	AAATTTACCA
84701	TTTCTTTGCT	TGTATCGTCC	CTGTTCTGTG	AAGAAACAAA	CAGTTGGATT
84751	TCTAAGGTAC	TCTAAAGCTA	AGTTCACAGA	CAAGTAATTG	AGTCTCAATC
84801	CAGAGCCTTA	ATAACAACCTA	ATAAACACCT	GTGTTTTCCA	AAATTTCCCTC

V gene exon 3

84851	CAGGTAAAAT	CAAGGAACTT	TTTGCTCCAG	GAGTGATTGA	CTCACACACC
84901	ATTCTGGTGC	TGGTGAACGT	GATCTACTTC	AAAGCATCCT	GGGAACACAA
84951	GTTTGAGGAG	AAAAATACAG	TACAGAGAGA	TTTTAACTG	AATCAGGTAG
85001	ATATGCATTG	TATAAATCTT	AGCATGATTT	ACCTGAGTTA	GCATGATTTA
85051	CATGAGTTGC	AACGACTCAG	CATTTTGTTT	CAATGGCTGA	CAAAACACAA
85101	AGCTTCAGCC	CTGATCAGCG	CTTTTGAACC	TAATAGTCAC	TATGGGCAGC
85151	TGTCATGGAT	AGAAGCCAAT	TGCAAAGATC	TCATTTTACA	CAGGCTCTGT
85201	GGGGCCATCC	TGGCTTTTAT	GCATCCCGTA	CAATTCAGCG	TGAGCCATGC
85251	AACAGATAGG	TTAAACCAAA	CCAATCAAAA	AAAGAGGCCA	GATATTAACA
85301	AGCCACATAT	ATGAAGATGG	AATTTGAAAC	AGGAAAAATC	CTCACAGAGT
85351	GTTTTGGTTT	ATTTATAGTA	TCTGCAATGT	TTAAAAGGTT	TTTTTTAAAA
85401	TATTTTTTTT	ATTTTGATTTC	CTTTTTTCCA	CCGTACATAT	AAAATGGAAG

CR1 - GG

85451	TTTTCATTCG	TCAACTAAGG	TACAGAATCA	TAGAATTACT	CAGGTTGGAA
85501	AGGACCTCAA	AGATCATCAA	GTCCAACCGC	AGCCTAACCA	TAGTACCCTA
85551	ACTCTAACAA	CCATCTGTTA	AATCATATCT	CTGAGCACCA	CATCCAAACG
85601	GCTCTTAAAC	ACATCCAGGG	ATGGTAACTC	AACCACCTCC	CTGGGGAGCC
85651	TATCCCAGCG	CTTAACAACC	CTTTCTGTAA	AGAAGTGTTT	CCTAACGTCC
85701	AACCTAAACT	TACCTTGGCA	CAACTTGAGG	CCATTTCCCC	TCGTCTTGTC
85751	ACCTGTTGCC	AGTGAGAAGA	GACCTACCCC	GCTCTCACTG	TAAGCACCTT
85801	TCAGGTACTG	GAAGAAAATA	ATAAGGTCTT	CTCTCAGCCT	CCTCTTCTCC
85851	AGACTAAAAA	GCCCCAGCTC	CCTCAGCTTC	TCCTCGTAGG	ACTGATTTTC
85901	CAAGCCCTTC	ACTAGCCTTG	TGAAGCTGCA	AAAAGTTCTT	TAACAACCAC
85951	ATTAATCCAA	GCTCTGTACA	GCTCAAGTCT	AACAAATGTC	TTCAAAAAAG
86001	ATGATCAAAA	CCATTTTATT	TCATTTAATT	CAGTTTGTGC	TTCAATCCAT
86051	ATGCTGTGCC	TATGTTACAC	TAAATAATGA	AGCCGCCAAA	AAAATGAACC
86101	CACAAAAAAC	ACAGATTTAG	CTCTGATCTG	AAGTTGAAGA	GCTTTGTATG
86151	GGAAAAACTG	TATTCTAAGT	GTTTCTTATC	TATACAAACA	AAAGGTCAGA
86201	AAGACATCTG	TTGCTAGCCG	TAGTGTTGCA	CTGCCATTTA	TTAAGACACG
86251	TAAGAAAGTG	TAATTTTGGT	CCCTTAATTT	TTTTACTTGA	AATATGTCTT
86301	TGAATTTGAA	TACTGAAAAC	TGACCTTAGG	TAGGAACATT	TGGAACACTG
86351	CTGCAGTCAC	AGAAACTATG	AGATTGGGGG	AATCTGCATA	TACTTTTCTT
86401	CATGCACTAA	TTAATAATGT	TCTCTACTAA	AATTCTTCCG	CTGATTTAGA
86451	AGGTAAAGTA	AAACTTAGCT	AATGGTGAAA	TGAACCTTGA	GCCTTTACAC
86501	AGGATTTGAA	CAAACTCATC	ACAAAAGAAA	ATGAGGCTTA	GAAGACCTAG
86551	AAGAACATGC	CTGAGATTGC	TCTTAATCTG	TCTATTGCTT	CCTGCCTAAA
86601	ACATCTACCT	GATAAATGAC	AACCTGATTC	CTGCAGTGCT	ATTTCTTCTC

86651	TATCCCATTTC	CAAACCAGGA	CTTGCAAATC	CCATCAGCAT	CAGCTTGTTT
86701	GGCTGGAGAG	TAATGGTATT	AAGCCACTTC	ACTATCTGAT	CAGTTGCAGG
86751	GAAATTGCTT	TGTTTTATTT	TGCCCCCAG	AGAATTATCT	CCTTTATACA
86801	TGAATGGCAA	AACTGATGTT	TTACGTGTCG	TTGTATGTGC	AACAAAATAA
86851	AGAAAAAATG	TTTAGCTTTA	TAACAATTAC	TGCTGCAAAC	ACAGACTACT
86901	GATATTGCAC	CTGAAGTTTA	AACATTAAGG	TCTGTATTGC	TTGTGTGATC

V gene exon 4

86951	ATTCCAATTT	CTTTTTTAAAT	AGAATGAGAG	AAAGCCAGTA	CAGATGATGT
87001	ATCAGAAAGG	CACATTTAAA	CTAGGCTATA	TTGAAGAGCT	GGGAACCTCAG
87051	GTGCTTGAAC	TCCCTTACGC	TCAGAAGTTG	CTTAGCATGA	TCATCCTGCA
87101	CCAGGAGAGA	CAGCAGATGG	ATCTCCCAGT	GGGGCTGGAA	CAGGTAAGGG
87151	TGAGGACTGC	GGCTAAGCCG	GA CTGAAAGC	TGGTTGTCTG	AATTAAAGCT
87201	GGGCAAAAAT	CTAAACTTGT	TAATTTCCCC	ATCTTCTAGA	CTGAAAGCAC

V gene exon 5

87251	AATGACCTAT	GAAAATTTAA	TGCTGTGGTT	CTCTTCCGAA	CATATGTTTG
87301	AGATGGTGGT	AGAGGTGTAC	CTGCCCCGAT	TCAAGCTCGA	AGGCACCTTT
87351	GACCTCAATG	AGGTATTTAA	AGCAATGGGA	ATGACTGACA	TCTTCAGTGA
87401	ATCCAAAGCT	GATCTTTCTG	CATTGTTCATC	TGAGAAATCC	CTGGTGTTGT
87451	CAAACATTGT	CCACAAGGCT	TATGTGGAAG	TCAATGAGGA	GGGTACTACA
87501	GCAGCAGCTG	CTACAGGAGC	TACCATTGTG	AGGAGGTCTC	TTCCCCTCAT
87551	AGAGGTGTTT	ATAGCTGACC	GTCTTTTCTT	ATTCTTTATT	AGGCACAATC
87601	CCACCAGTAC	CATTCTTTTC	TTTGGTAAAT	TCTGCTCACC	TTAAAATCAA
87651	GGCCATCTTC	TAGCATTTGTG	AGAAAAACCT	GGATGAATCA	GAAATACTAT
87701	TTTTCCCCCT	ACACCTTCTT	ATTCTTATGA	ATGATTGTAG	ATCAAAGTAA
87751	TCACTGCAGC	CAACCTAGCC	TAGAACCATC	AATTGAATGC	CCTCCTGTTA
87801	TGCTCCTTGA	ATGGCAAATA	TTGATCTGAA	TCTAAAACAG	GAGTAAGTTT
87851	TCCCTTAACC	TGACTGGAAA	TCAAGAATAT	TTTGTTTCTT	CAAGGCGTAC
87901	ATACACTCCT	GTATAGCCAA	GTATGTCCGG	CATAGCCAAG	TAATGTAGTA
87951	CACATTTTGC	CTGGCAAAGG	TAGAATTTGT	ATGCTGCTAC	CTGAGGAGAA
88001	CTGTTTGTA	CAATTTTCAG	TAAGTCCAG	TAAAAGTGGA	GTATTTTAT
88051	TTTCTCTGTA	GTTTTTGATT	TCCTGCCAGG	TGGGACTTGA	TTAACAGAGA
88101	GGGGCTTTGG	AAATGCTTTA	TACTTATACA	TAATCTGTAT	TTGTGGCAAA
88151	TCCTTCGCAC	AGTGGAGATC	TCACCTTGAT	AATTCCCTTT	CCTGTAGCAG
88201	CAGTCACAAG	CAAGCAGGAA	ATACCTTATT	ACAGCAAATT	CACGTGTTTA
88251	CTGACAACCTG	TACCACCTTT	CCCCCATGA	TGTATGCTGG	ATCTATCCTT
88301	TTGCCATATA	AAACGTTTAT	GCTAGAAGCA	GCTTTGGTTT	CATTTATTTA
88351	TTTAGATATA	AGCCTGCATC	TGAAGCACCA	ACTCATCAAC	TGGAAGATAG
88401	ATGGAATATG	ACATATACCC	CTTTCACAA	CCCTTGTTT	TTTCCACATG
88451	AGTTCGTGTTA	GAAGCACTGT	ATTTTTCCTT	TTTTAAGATA	ACAACAGTAG
88501	GAACACTCAT	GGAAAGGACA	AGATTACGCC	TCATGAACAC	ATCTAGTAAG
88551	AGAGTTGATT	ATAACAGCAA	CTGAGTATGT	GGGAAGGCAA	GATTTTGACC
88601	CTCGTTTTAC	AGGATTTTTT	GGCACTCTTT	TTTGAAAATA	AATCCACCCT

CR1 - GG

88651	TAAAGAATCA	CAGCATGGTT	GATGTTGCAA	GGGACCTCTG	GAGGACATTT
88701	TGTCCAACCTG	TCCTGTTTCA	GCAGGGCAAC	CATGTCCAGG	GGGCTTTTGA
88751	GAATCCCCAA	GCACAGAAAC	TTCACAACCT	CTCTGGACAA	CCTCTTCTGA
88801	GTTCCACAA	TTTTGAATGA	CACCAAAGAG	AATTTTGTAT	GCGCAGTGTC
88851	TGCAGGAATG	GGATGTGAAA	ACACACATTT	CTAAAGCTTA	ATTACTTACA
88901	TAGTGAAGTA	ATTGGTTTTC	TTCTTGAGT	TCTGCTCTCT	GGTGAAGTTT
88951	AATGATCTGA	GATGCATGTA	TATAGATATA	CAGGTCTCTC	CAGCCCTGAG
89001	GAATGAAGAA	AAGTTTGTAA	AAGGGCAATG	TAAGCAATAG	AAATCACAGT
89051	CAAATATTAC	CTGGAAAAC	TTTTAGTCTG	AGAGATAATT	AGAAAAATAG
89101	AATTAGCAGC	TGACTGATAG	AGAGACATAA	CTGTTAAGTT	GCTGGTTTAA
89151	CACAAGTAAT	ATCTTCCTCA	CAGAGTTCTA	TGTGAGGTTT	AACTAACTAG

89201	CGTTGGCAAC	TTGTGCTTTG	TGACCTATAA	AAAGGCAAGT	ATACATTAGC
89251	TATTAGTCAT	ATAATTGAGT	GTAAAGCTCC	ATAAAGTAAT	TCATGATTAG
89301	CACAGTTTAT	GTACCAAAAG	TTACCTGCGG	CTCTTTGGAT	AAGAAAGTCT
89351	AGGCATGATG	TTCGAGCAAG	AACAGGCAGG	AGTAGGACAA	TAATATTCAA
89401	ACAACCTACC	CTTACTGACT	AATCTGAAAG	CACAGTACAA	TGTAAGCAGT
89451	ACTTTTCCAG	ATTGTGTCCA	TGTTTCCATT	CTGGAGGCTG	ACAGCACAGA
89501	TTGCCTACTA	AGCTATGTTT	TTATTACCTC	CAGGTGTCAT	CACTTGGTTT
89551	TTACATACCC	TGGGGAAGTT	CTGAGCACCA	CAACCTCAAA	CATCAGTCCC
89601	ACTTCTGCAA	CGACAGGAAC	AGAGATTCCCT	GTGATGAAGC	GTCGAATAAC
89651	ACAGTGCTTT	GCTCCAGTTG	TTGGAGGAGA	TGGTTCATGA	TAAATCTAGA
89701	GTGAGATTAA	GACACAGATG	AGGTCAAATG	TCATCCAGCT	AGTTTATGAC
89751	AAATTCTAAG	CAGTTAAGGA	ATGTGGGAAA	CATGGCAAAG	TTAGCAACAG
89801	TAAAGGGAGG	AATTCTAGCA	AACTGGCTAT	AGAGCAGGGA	TACTCACCCC
89851	CATGGATCTA	GCAGTATCCC	ATTGGTTTGC	AGGAGGTTGC	AGGTCAGTCA
89901	AAGACATATC	ACTGATCTGC	ACAGCTGCAG	TTCAGTGGAG	GATTGTCTCT
89951	GTTCTACCAC	TGAACTCTTC	AGGCTTTATC	CTCTTCATTC	TGCTCTCATG
90001	CACCTTCAGT	TACTCAGGGC	CAATGGCATG	TGTGCCTCCC	ATTGGGTGAT
90051	CGGCTGTTGA	TCATGCAGCA	ATCACACACC	TGCCACCTGG	CACGCTGTTC

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90101	GGCATGTGTA	CTGACTTAAT	GGAAGAGACC	TTTTAAGCTC	ATCTAGTCCA
90151	ACTCCCCTCC	ACTGAAGAGG	GACACCTACA	GCTAGATCAG	GTTATTTCAGA
90201	GCCCCGTCCA	GCCTCCTCAA	TGTCTCCAGG	GAAGGGGCTT	CTACCATATC
90251	TCTAAGCAGC	ACATTCCAGT	GCCCCACCAT	CCTCACTGTA	AAAGAATTTT
90301	TCTTTATATC	CAAGCCAAAT	CTCCCTTCCT	TTAGTTTGAA	ACTATTTCCC
90351	CTTGTCCCAT	TACAACAGAT	CCTACTAAAG	AATCTGTCTC	CTTCTTCTTA
90401	AGAGCTCCCT	TGAGAAGGGA	GCTCTTCTCA	GGTCACCTTG	GAGCCTTCTC
90451	ATATCCAGAC	TGAGCAGTGC	TAGTTCTCAG	CCCGTCCTTG	TAGGGGAAGC
90501	ATTCCATCCC	TTGGATTATT	TTCTCTTGGA	CTCACTTCAA	CGTCCATGTC
90551	TCCTCTGTAC	TGAGGACTGC	ACATTTGGAT	GTAGTACTCT	AGGAGAGGCC
90601	TCACCAGCAT	AGAGCAAGGG	ACAGGATCAC	CTGCCTTGCC	CTGCTGGCCA
90651	TGCTTCTTTT	GCTGCAACCT	AAGATACGGT	TGACTTTCTA	GGCTGCAAGG
90701	GCACACTACT	GACTCACGTC	CAGATGCCAT	CTACCACAGT	ACCCCTAAAT
90751	CCTTTTCTGG	CAGGGCTATG	CTCCCTCTTT	TCGTATTCCA	GCTTGTAAT

V gene exon 6

90801	GTAGTGGGGG	TTGCCATAAC	CCAGGTGCAA	GACCTTACCT	TTGGATTTGT
90851	TGACCCTCAT	GAAGTTCTCT	CGGGCCCCACT	GCTTGAGCCT	GTATGGATCC
90901	CTCTGAATGG	CATCTCATCC	TTCAGGAGCA	TCCACTACAC	CATACAGCTT
90951	GGTGTCTTTT	GCAAACCTTG	TGAGGGTGCA	TCAAAATCCT	GTTGACAATG
91001	TTACTGATGA	AGACACTAAA	GAGTACTGAT	CCCAGTACTG	ATCCCTAAGG
91051	AACACTACTG	GTCATGATC	TCCATCCAGA	CATTGAGCCA	TTGACCACCA
91101	CTCTCTGGGT	TTGATCCCGC	AGCCAGTTTC	TAGTCCACTA	GTCAGCACAC
91151	CACATGATCAT	AGCCACACTC	GAAGGGGCAG	TCATGCAAGC	ACCACCCTGG
91201	GTATTTATTT	CCCAGCACTC	TAAAGCAGAG	CTCTTGCTCC	AGCTCATGTT
91251	ATTTTCTGTG	TGGCAAGGAG	TGAGATTTCAT	CGACTCTAGC	AAATGGAACT
91301	AATGGCTCCA	TGTGCCCCAG	GTCTCAGCTC	AGCACCAGCC	AGGCCAGGGC

V gene exon 7

91351	TGAGTCCCCC	CACATCCAAC	CCATAAGGTC	CCAGAGGACT	CCTACGTTTA
91401	CCAGTGGGTGC	ACAGAGATGA	GTTTAGCCCA	AGTCCACCCC	TCAGCCTCAA
91451	CTCCCTTCAA	CACCTCTTCA	CCAAGAGGCC	CAATCCATCA	CTCCTTACCA
91501	GCCAAAACAT	ATACTTGTTT	AATACCACAG	CCACAAAAGC	CACGTGGTAA
91551	GGTCTGAAGA	GACCAAAACT	GTGGTTTGAG	TAAAACAGAA	GGAAAGCCTC
91601	TACTCAGTAC	CCCACCTTATG	ACTGAGTTAC	TAGGATAGGA	CCTGATTCTA
91651	CAGCACCCCA	ATACCCTGTA	GATGTATTCC	TTTAATTCTT	CACACCAGAT
91701	TAAGGCTGCT	GCCACCACCC	ACCACAAATA	AATCCTTGCT	TAGGCTGATT

91751	ATAACTTACA	CCTGTGGCTT	CCACAGTCAA	ATGAGATTCC	CAGTGCCAC
91801	CTGCGTGTTC	AACTTCCTTA	AGGCAAAGCA	TCTTGCAGTT	AGCAGAGTGT
91851	TAAGAAATCT	TCTTGTATTT	CCTTTAACAC	ACGTTTATCT	TCCCCAGTGA
91901	TGCTGAATTT	GCAAATGCTT	TAGGGAAAAA	TTGGCAGCAA	GTCCCTACAT
91951	AATTACTGTT	TAGCCTAGAA	AATAACAACC	GAGGTAGAAT	ACTTCAGAAA
92001	GTTTCTAATT	TAAGGTTTTT	TTCTTGATGA	GAGAAAAGTG	CTATCAGAGC
92051	TGTTTAGTAA	TTCCAGTCAT	GCATGGGTAA	CTCATTCTTC	TGTGTTAGGG
92101	TTTACTGAGA	GGTGAAGAAA	CAAGTAGTTT	CTTTTCCTTA	TGAAAAAAA
92151	AAAAAGTGGT	ATTAGAAGAA	CCCCATAAAA	GAATGCCAAA	CATTGCAGCT
92201	TATGATGTGC	AATGTGTCAC	TCAGTCTTAC	AGATGACACA	GCCTGGAAGT
92251	AAGCTTAAAA	AAAATGTTTA	ATTCTAACT	TCTTTTGACA	CCATCTGTGC
92301	TGTGGTTTAT	GACATCCATT	AATAATGTTT	ATCACTAAAC	AACAACAGAT
92351	AGAGAGACCA	GAAACTAAGG	ATGCTGCTGT	CATTTCCTTC	TGATGCAAGG
92401	TAGAAACATC	AGGAAATTAA	GGCACACTGA	AATATTTTGT	AATATTTTGG
92451	ACTAGAAGCA	AAACCAGAAA	CTGAGTTGCA	TTTGTCTCCT	GGAGTACATT
92501	CTACAGGTAT	TTAAAAAGAG	ACAAAAACCA	TAAATCTACT	TGAATTTAAT
92551	TTGAAGTATC	AAATGAAAAA	GATGTACCTG	ATTTTATTAT	CCTCCACACT
92601	GGTCTTCTGA	ACTTGACCAA	TCCCCTGGT	CAGTTACTGG	TTTACGACTG
92651	CTCAAGCTGT	TTGTAGCAAC	TATGTTGTAC	CACAAAATAT	CTGAGCCATT
92701	ACAAAACAGA	AGAGTCATTA	GGCATTTTAT	CTCCAACCCA	AAGCATACAT
92751	GCATGTTTTA	AAATCTCAAA	TTCTCCTGAC	TTTAATTGTG	CATATTATGT
92801	TCACCAAACC	TTTTAGAACC	TGCCTTGTTT	TTTTTGTTCT	GGTCTGTAGC
92851	TGGGAGTCAG	AGAAATTCAA	CTGTGATTGG	AAAAATGGTT	ACTGGCAAGC
92901	TATAGAGTTT	CTAAGCCAGA	AGGTGAAGAA	ATACTACTTT	TTTAACACTC
92951	TTGGCCTGGG	ACTAGACTTA	CAGACATGAT	CAATATTGAA	AGGCAATTTG
93001	GAGGTATACA	TTTTAACATG	TCCTCAGTCT	GGAGTTAGCT	GTGTGTCCAG
93051	TTTCCTCTCA	GTGTGAGTCA	AGCAATAGCA	TTAGAAAGTT	ATGCCCCAAG
93101	TCTCATCCCC	TCCTATTGAA	ACTTGGCACA	GCACATTTCAG	GCCTGAAGCC

V gene exon 8

93151	ACCAGGTCAC	AGCCCCCTTA	AAGGATTCGG	CAACAGCTGT	GGTTGCTATC
93201	ACATGGTGTT	GATCATCGTT	GGGCCCTCA	CTGTAAGAAA	GACATTGAGA
93251	CCCTGGAGCG	TGTCCAGAGG	AGGGCAACAA	AGCTGTTGAG	GGGTCTGGAG
93301	CACAGGCCTT	ATGAGGAACG	GCTGAAGGAA	CTGGGATTGT	TCAGTCTAAA
93351	GAAGAGGAGG	CTCAGGGGAG	ACCTTATTGC	TCTCTATAAC	TACCTGAAGG
93401	GAGGTTGTAG	TGAGCTGGGG	GTCGGCCTCT	TCTCTCGTGT	GACTAGTGAT

CR1-L

93451	AGGACTAGAG	GGAATGGCTT	CAAGCTGCGT	CAGGGAAGGT	TCAGGCTGGA
93501	TGTTAGGAAA	TACTACTTCT	CTGAAAGGGT	GGTCAGGCAC	TGGAAAGGGC
93551	TGCCCAGAGA	GGTGGTGGAG	TCAGTGACCC	TGAAGGTGTT	CAAAGAGTGT
93601	TTGGATGTTG	TGTTGAGGGA	CATGGTTTAG	TGAGAACCAT	TGGTGAAGGG
93651	CGAACGAATG	GTTGGACTGG	ATGATCTTCT	GGGTCTTTTC	CTACCTTAGT
93701	GATTCCATGA	TTCTATGATC	ATTACACTGG	ATTTGATACT	CTGTGAGCAA
93751	AGGCATTGAA	GTGGTACAAA	AAATTCAACA	TTCTGCATTA	AATTGTAGAA
93801	TCTGGCAAGT	GGAAATCGTT	TTCTATAGGC	ACAGCCACGC	ACTCAGAATG
93851	TGTTTGCAAT	TTGCTTGCAAT	TTAGTCTTCT	GCAAGTAATG	ACTGCTTTCT
93901	GTATGCAAAT	GATTGATCCA	TGTGAAAAAA	TCTGCTTGTG	TATCTGTGAA
93951	TCAAATGCAT	TGCTTTATAA	TGTGCATTTT	GGATCATTTA	TTTGTGGAAG
94001	TAAGTGTAAT	AAACAGAGCC	TGCAATTGTG	CTTCTGCAGT	ATACAAGGCG
94051	TTACTCAACT	CCAGCTGTAC	AGTCAGTCAG	GCCCTGAGAT	AATCTAGACT
94101	TATACTTTCC	ATAGTTATTA	TAATTTTGTC	TCTTACTAAA	TCTTTGATTC
94151	TGCTTGTTTG	ATAAAGTAAC	ACTCATTTTC	TATATAGTAT	TACAATCGCT
94201	TCTAGAAGGC	ATTACATCAC	TGAATTCATA	GGCTTTCTGA	AAAACAGATT
94251	CAGAAATCAG	ATTTTCTAAC	TGTATTTTTC	CATGTATATG	TATTGGAGAA
94301	CTAGTGAAGA	ACGTGTTTAA	TATACAGAAC	TACAGATAAA	TCCAGAAAGG

94351	AGAAGCAACA	CTCAAAATAA	GGATGTGGCA	ATCCTAAATA	GGCTGTAAGC
94401	TGGCTTGAAG	CATGTCCCCTC	CAAAAAAGCC	ATCTGAGAGA	AAATTTCTCA
94451	TTTACCATGC	ATGTGCAAGT	TTCCAAACTC	TGCAGGTATT	TTATTTTCTC
94501	CTTTTGCAAA	TTCCCTTGCA	GATGGCATTT	TGCTTTGCTT	GCTCTGAAGT
94551	GCGTTGATGT	GAGCAGTGAG	GTGCTTTTCT	CATGCTGAAA	TACAAGAATA
94601	AAGAAGATTG	AAGCACAGGT	CTGTGCAGAA	CATCTAGTGA	ATGTATTTCAG
94651	GGCATGCCAA	GCACAAGCTA	TTCAAATATT	GCTCCCTGAA	AATGCAGTCA
94701	GAGTGGACTT	CATGTTTTTA	AGTGGAAGTG	GTACATAACT	TCTGTAGTGG
94751	AGAAATCGTG	TGACTCAGGG	GGTGAAGGGC	CTATCCTCAG	TTAATCCCAT
94801	ATTCTTGTTG	CAATATGGGC	CTGCATCTTC	CAGCACTGTC	AGACTCCAGG
94851	TTTTAGCATA	AGATCAGTGG	AAAAAAATAT	ACACAAATAT	ACCCCTTGCT
94901	TCTGAAGCTC	TGCCCTAATT	GGGATGATTG	CAAATAAATG	AAAAAAAAAA
94951	AAAGGGAAAT	TCAAATACTG	ATGATAACTC	TGCAGTTCAA	CAACCAGGAC
95001	ACCTAGTAGG	TGAGTTCCTG	CTTCCAGTCC	CTGCTGCTAG	GACTATTCTT
95051	GTTTTAATGT	TTAAGAGAAA	ACAAGTATTC	ACACATGGGT	GAGTACCCTA
95101	GCAATAATGA	CAGAGAACTA	TTCTGCTCTA	TAGCATTCTG	ATAGTATGAA
95151	TCTCGCCTTA	ATTCCATAGT	CTTCTCTTAG	TACCACGTCC	CCCAGCTCCT
95201	GTTGTCTGAA	TTAAGCAATC	ACTGTGTGAC	ACCTACGTCT	GAGCTTAGCT
95251	CCATTACACT	CAATGAAATC	AGTTGCTGGT	CTTCTGTGGA	AAATATACTA
95301	TTGCGCCCTG	AGCAGTGCTG	AGCACAGCAC	CTGTTTGCCT	AATATTAATG
95351	CAGCACTCAG	ACCACAACCA	GCCTCAAGAC	ACTCAGCAGA	AGGAATATTA
95401	TGAAAACAGT	AGGTGCTGCT	CCTGAAGCAT	AACAGCCTCC	AGAGATGGAA
95451	GACAAGAAGA	TGTGCTTTGG	TAGTGTGTGG	TGCTCATTTT	CTTGTTTCATG
95501	AATGATGATG	GGAATGACTC	TGGAAGACAC	ACCAGAGGCC	TCTGGTGTAT
95551	ACCCCATGCC	TCCAGCCTGG	GCAACTCCTC	CTTGCTGCCT	TTTTGACTTG
95601	TTTTGTGCAA	GCCATCCATC	CAGAGGTGCA	GAGTGAAAAC	AACCATGGAG
95651	CTCAAGAAGA	GCCTCATCAG	GTCCATACAC	ACTTCAAACC	CAGAGCAAAA
95701	CATTGGAGCC	TCGGGCTCAC	TGCACAGTTC	TGCTGAAAAC	TGTGATGAAG
95751	AGTTAGGGGT	TAGAGGAAAA	ATGTGCTGTA	GTTATCAGTG	CAGCTCCATC
95801	ATCTGTTCCG	GGAGCATCAA	GGCTTCCTGG	AGAGAACATT	ATCAGAAGGA
95851	CACAAATTAT	TCAGTGAGAG	GGAGAAAGTG	GCCTCTGAAC	GCTCTGAGTC
95901	AGATGCTTAT	TTTGTGAATT	TTTCTGTTTC	CCTCTTCCTG	TTATGCTTCC
95951	TGCAGATACT	TGGCACATCC	TTGAGGCGAT	TCAGCAATAT	ATGCTCATAT
96001	TCAGCCACAT	CTACAGAGTG	CCTCCTCCCT	GAGAGGAGAA	AAATATTTGT
96051	TTTAGGGGGT	AAAACCAGAA	TAGCTGTGCT	TGGACCTCCT	GCTCTGCTGT
96101	GGGACAAGAG	AAGCTAGGCT	CCTGGTAACC	TCAGGAGGCA	GAGGGAGGCA
96151	CATTATAATT	TGGCTAAGAC	TTGAAAATGC	AATTTGTTGG	TATATTTGGT
96201	AAATATACTG	ATGGCCTAGT	CCCATAAACT	ACCTTCTAGA	TGTGGAGTAA
96251	GTGGTTTAAA	GGCATAGCTA	AGAGGTTGCA	GAAAAGAAAG	GACCACATCC
96301	AATTTGGTAG	CAACCAACAT	CCAGCATTCA	CAGACTCATG	AGAAATACCT
96351	TTTAATTAAT	TTATTTATAT	TAAATAAAAA	AAAAAAATCC	TTTGATGACT
MAR (0.81)					
96401	CACCCTGCTT	TTCCCTGTTAC	TCTCAGTTGG	GAAGAAAGTA	ACCGCTGGGT
96451	ACATACTACT	GCAATTTTCAG	AGCTGCAGAC	TTGAAGAGCT	TTCCCAAGTG
96501	CTGAGATATG	CAGGAAAAAA	AACCCCTGTAA	ATTACAGTAC	CAGGCATTTA
96551	ATTTTGATTG	CTAAATAAAG	AAGACTCGTG	ACAGTCCATG	ACTACGTCTT
96601	GGAGGGCTGC	AATTACATAT	GAAATATAGT	CTGAATTAGG	AGAGTTACTG
96651	GCAGAGGCAA	AGTTTGTCATG	CCAATTAATT	GGTAAAAGGA	GAGTACGCCA
96701	AACACAGGCT	GTGGACTGCT	CTGATGAACT	GAGTATGTAA	AAAAATAGCCA
96751	TGTGTGTTTT	TCAGTGAATA	CCATGGTATA	TGTCTGGTTT	GAGTCAAATA
96801	TGTATTAAAA	TGAAAAAATA	AAACAACAAG	AACAGTGAAA	TAAACAGTGC
96851	TAGCATATAT	TAGCTTGTAT	AATCAGACCT	ATATAGTTTT	CAAATAAATC
96901	TTCAAGGAGA	ACAAAATGTA	TAGTATGTAT	GATAAGGATA	AGTACTATAA
96951	AACATCATCA	TGAGGAGTGC	CAGTCTGACA	ACAGGAAAAG	GAATTCAGCG

97001	TGTGAATGAA	GGGGAAAGTG	TGACTGAAAC	AATTGTCACT	CAGCTTACTA
97051	CAGCAGAAGC	AATCATTTAT	GATCTTAGAT	TTTTTTTTTAT	TTTTTTTTTTT
97101	AACCTGCTTC	AGAGATATCT	AAGTAATCTC	AAAAACAGGA	ACAAAATACC
97151	AACGCAAGGA	AAAATTCTAT	TTTCGCTTCA	TATAATCTTT	TCTTTTTTTTT
97201	TCTAGTTGCA	TTCTTACCTA	AAAACAACAA	CAACAAAACA	TTTAAACAAT
97251	GTTTAAATGT	TTACTGCTGG	TTTGATTACA	TCAAACCGAG	TTGTTGCTGG
97301	AGATGACCAG	CTATCAAGGT	GCATAATGGA	CTGGCAGATG	TGCTTGGTCT
97351	TACCCCAGGT	TGCTGTGCAA	ACACAATACA	CATTGACATA	TAAGCTACTA
97401	TGAGTTCTGA	AGGGCAGTTT	AGACATTAAT	TCTACTCCAG	GCCAGACACG
97451	CTGACTATCT	GAGTGGTTTA	TAGCAAGGGA	CTGGTTGACT	TCAAAGTGGT
97501	TCCAAGTCAA	CCACTGCCAA	GTGCTTAAGA	CTGTGTATGC	ACAACAGAGC
97551	TGATCATCTC	CAGTGCAACA	AATAACATGA	GAGCAAAAAG	CATCTGAAAT
97601	TCTGTAAATG	AGGCTGTTCT	GGCCACACCT	TGGCTCATTA	AAAGACTTTG
97651	AGAGATGCCA	GAATAGCCTC	TGCTAAATGT	GATGCAGATG	GACAAGCTAT
97701	GGAATGAATG	GGTCCAGGGC	ATAAGGAAAC	ATTACCCTCA	AGCACTACAC
97751	AGGAGTCTCT	GAACAACCA	AGGAAAGGAA	ATGTGAAAAT	GTGAACAGAT
97801	AAATGTTGGA	AAGAGCCGCA	TTTCTGCTGC	TTACTATGTC	CTTGATTATG
97851	CCAACATTAA	GGAAGAATGG	CAAACCCCGT	GAATTGGTTT	AGGAACAGCT

Y:OV-1 element

97901	CTACAATGGA	CTGCCTGACG	GAGGAAAAGG	GCAGCAGAGT	CCTTGCTGAC
97951	CTCTTTCTGG	TACAAACACA	GATCTGGAAC	AGAGTTTAAC	CAATTAGTCT
98001	TGCTTGCAAT	CATGCCTCTT	GAATTCAAG	AGGTGCCTTT	GATTTCCCTT
98051	GGCCTAACAC	CCCATCTAAA	ATTACAAAAC	CATATTTTGT	CTGCTGAGGA
98101	CTGTGCACGG	ATAGCCCGTT	CTGGTCAACA	TACTCAGGCT	GCTTCTGCAA
98151	CAAGTTTTGC	ACTGGCATT	AGTGTAGAAA	AAATGCAAGA	CCTGTGTAGC
98201	GGCAGACTTC	TCTCTGGAGA	ACATGTATTG	CCTCAACTAT	CTTACCTGTG
98251	CAAACTGTT	GTGGTGACTG	TGCTATTGCA	GAGGTAGAGT	GTTCAAAGAA
98301	GGCAAACGTA	CTGAATGAGA	GAACACATCA	AAAACACCTT	CATGCCCTCT
98351	TCTAGGGGAG	ACAGCGAAAC	AAAATGTTTA	TTGAGAAAAT	CTTGAGACATC
98401	AGTCCAAGAG	ATGAAAACAC	TGTCCATATG	TGCAGGGCTG	GTTGTGTTCT
98451	ACAGGTCCAT	GCTGCATAGA	TGACCACAGA	GGACAAAGAC	ATTGAAACCA
98501	AGCATACAAA	GGGCTGTGGG	TACCCAGGAA	AGTTCTTCAA	GGAAGCCTTG
98551	AAGGGATGTT	TGAGTACCCA	CCTGACCTGT	AGCTGCAACC	CTGATGTAAA
98601	CATGTGAAAA	TGGGAGCATA	AGAGAAGACA	CTACACACTG	CAACAAAACC
98651	TGTGCCCTTG	GGGAGGAAAA	GTTTGACAAG	ATAAAGTAGA	AGCTATTGAA
98701	AAAGGAACAT	TAAACAAGAC	AGGAGGAAAG	CTTCTTACTA	TCTGTAGATT
98751	TCCCTACTCC	CGACATGACT	ACTGTCATGT	TGACAGATAA	AAAAACTCA
98801	TTTTGAGTGT	GGAACTGAA	AGCCATTCCA	GTTATCATGG	TCTGCACATA
98851	CACACATGAC	TGAATTTTCA	CAACACAAAA	CACAGTGCTT	ATGATAAAGG
98901	AGCTCCCTTT	TACCTTTTACC	AGTGGGTACC	ACCACCACTG	TGTACTGTCT
98951	GTCTTAATGT	GCAAAAATTT	GGGATTCTTA	TTATTCATTC	CCCTGGCCTT
99001	AACAGAAGCT	GGATTTTTTT	CTTTAGTGCT	CATCAAGGGC	ATTATTCAAT

SDRE fragment

99051	AAAGAGTAAT	AGCTTTTTTAC	AATTGACTAA	TATTTGATAT	TGTGCATTAT
99101	GATTGTCTAA	CAGACCATGA	ATGTTCTTTC	AGACAGATTT	GGTAGTTTAT
99151	TTACCTGTCA	TAGTAAAATA	GGAGGTACAG	AAGATCTATG	AGAATAGCCT
99201	GTGCATGTAC	AATGGGCCTT	GTTGCCATGA	CCTATGAAGA	ATGAAAATCA
99251	AAAGCTGACC	ACCAATCATC	CCTTGAATTC	CACTGGCTGT	TCAGCATTCA
99301	CTTCTGAATA	TCTGAATACT	CTGGAGTCTG	CCTTCGCAAA	GCAGCAAATA
99351	CTTTCAGACT	GTTCCCTAAA	TCTCTTCCTC	TTACCTATTC	ACACTGAGTT
99401	CTCTAATTCA	TCCCAACACC	TCTGCTCTGA	ATTTTTTCAT	AAGAAGCTTC
99451	AGCAAAATGT	GCTTCTCCT	CTCAAATGTA	TGCTGCAGAG	CCTTTGGCTT
99501	ACAGTGGATA	TAGCCCAAAT	TCCAGTGAAA	AACCTCAGTC	TTGCCTAGGT
99551	GCAGAAATAG	ATGGAGCTGT	GCTTTTAAACA	AGTACTAACT	ATAAGCTTCT

99601	TCAGTTCTCA	AACTCTTTCA	GCAGACCAAA	ACATTTTTTCA	GTACAGTTTTT
99651	GTTCTTTTAAA	AAACTCATAA	AGCTTTGTTT	CTATTCTTAC	ATGGAAAGCA
99701	ATCCATTACA	AAATCCTCAA	AATAGAATGA	CCATCCTGCA	GCTGACTCTG
99751	CTTGGAAGTG	CATTATTTTC	TCTACATCAA	GTGGTTGCCA	TCCATGAGAA
99801	GCATCCCTAT	GTTTCTCTGC	ACACTGCAGT	AAGAGATCAC	GTATATATCA
99851	CACTTTTCCC	TTCACCCATC	TTGGGAGCAG	TGCTACAGTA	AATTGTATAA
99901	TTACAGTGCC	CCAGAGATGA	GAAGAAACTG	AACAGCAGGA	AAGGAGACAC
99951	AGTCTTAAAA	AGAAGAATGT	TTTCCAGGAA	TTGATGCACT	TTCTTGCACT
100001	CCTTGGAAT	ATGGGACTAC	TCTTGCCTCA	CCTTTAGCAG	TGGGTGCTCA
100051	TTAAATGGTG	AATGGTGGTG	GGTCTTCTGG	TTCTCCAATC	ATGTCTTATT
100101	TTCTCATAAT	ATTTTGGGAT	CCTTAGATTG	ATCTGACTGT	GAGAATCACT
100151	TGATCTGATT	TTTTTTTTTTA	ATCTGATTTT	GCAGCTAAGT	TTATCTGAAG
100201	TGTATTATGC	TTATCCTCTT	TTTTAAGGGT	TTTTTTTTTTT	TTTAAAGTGT
100251	GTGTATTAT	TATTCGTTTG	GCTCTAGTTA	TCGATATGGC	TCAATCAAAT
100301	TAATGTTTAA	ATTCTGAAGT	AGAGCATGAG	ACATGCTAGA	CTTGAAGTTG
100351	GTACAGCTTT	ATAAGATACA	AGAAAAGCCT	GAATAATTAC	ATTCTACTAT
100401	TAGGTTTCAC	TTCACAAAAT	AAATTTGGCT	TTCTCCAAGT	AGAGTACCAG
100451	TCTAATGTTG	GCCTACTCAG	TGCTTTCAAG	CACAATGAAT	CAAAAGGCCA
100501	TGACAAAGGG	TAGTAACTCA	AAGGATGACT	CTTAGAAGGC	TAACAGGGGG
100551	AGTGTCCGAA	AGGGTACTGT	ATATATCACC	AAGGACTCAG	AGAATCTGTT

X gene exon L

100601	CAGGTTCAAC	TGGCAAGCTG	GATTATTACG	AGCCTCTTTG	ATGTTTTTCT
100651	GTAAGTACTT	CTCCAAATAA	AATGTAACCT	CTAAGTTGTA	TTCTTGAATA
100701	TGGAAAAAAC	AAAACAAAAC	AGAAATATAT	TATGTAAGAA	CTTAGAGGAA
100751	AAAAGGGCCG	CCTTCTATTT	TATGATGTTG	GCCCACCACA	TCAGAGGCAG
100801	ATGGTGGTGG	TATGGCAGTA	GAGGTGGAAC	CTTCCCACCA	ACACCCCGTT
100851	ATGTGTGTGT	GCTGTGTGAC	AGATGGCAGC	AGAGGGGCAG	TCTGACAGAA
100901	TGGCGTCTCA	CATGGAAGTG	TGTATGAAGC	AAAGGTGTGT	CACTGAATTC
100951	CTCCATATGG	AAAAAAATGG	CACCCACTGA	CATTCATCGA	TGCTTGCTGA
101001	ATGTTTATGG	AGACAAAACA	GTGGATGTGA	GCACAGCGAG	GCAGTGAGTG
101051	GTGTGTTTCA	GCAGTGCGCA	CAGTGACAGT	TGTTACCTC	CACTGGTACA
101101	GAATTTTGCC	AGCAGGAAAT	GCAGATTCTT	GTACATTGTG	GGCAAAAATG
101151	CATAGCTAGC	TGTGGTGGCT	ATGTTGAAAA	ATAATGTTCC	GTGGCTGAGA
101201	ATCTGCTCAA	GGAAATAAAG	TTATTGTAAT	CATTATAATA	ATATTATACA
101251	TGTGCTTTCT	ATCTATTGTA	GTTTACATGA	AAATAAATAG	GAGGCATTAC
101301	TTTTGGTGTG	ATCTGTATAC	AGGACAGATA	TGTAaaaaat	ATTTCTGGAA
101351	GAGAAAATTT	TTGTTTTTCA	AGTCTCACTC	CCTGCAGAAC	ACAGGTGAGG
101401	TACAGTAGGA	TAATTCACAG	AGCCTTGTTA	GCACCAGGAA	CCTCTCAGGT
101451	TATGTAGTAG	ATCACATTTG	CTACAAACTA	TGGATATGCT	ATTATTCCAA
101501	CTTAAAACTG	TTTTAGAACG	GGGAGGGCAC	TATTCAGCTT	TCTTGTTCTC
101551	GGATTAAAGA	AAGAGAAGGA	CTGTAGATTT	CAATAATTTT	CCCTAAGTCT
101601	TGACATTAAA	TTGCATGTAC	AAGACCTTCA	CCTGGCTGAT	CTGATGCAGC
101651	TTTACAGTGC	ATTAAGTAAT	TTAGCCAGAC	TGTGTATTTA	CGGTATATAG
101701	ACGTTTGTGT	GTTTTTGTCA	ACAACAAAAA	AAAGGAATCA	GCAGAGATTA
101751	AATGTCAAAA	AATGAGAATA	TAGAGAAGAA	GCCCCACTAA	GCTATAGTTT
101801	GGCATCTAAG	CAACTGGCTA	GATTTACAAA	GAGATTCACT	CTATAAATTA
101851	CAGGACAGCA	ACCTCCAATT	TTATGGCCAG	TTGTACAAAG	AAGCAGTTTG
101901	AAACAAGCTA	AGACTATTGT	GGTTTGACTA	CATTTGATTG	AAATATCCAG
101951	AGTATGGTCC	AGAGTAGACA	CAGAAGAAAT	GAAATGTGTT	TACATTGTCT
102001	CAAAAATCAT	TCAGAGTTCT	CTGGATGGCT	ATAGGGAAAC	TCATCTAGTC
102051	CACACTGTAT	TCATCATACT	GAAACACAGA	TGAAACTATC	TATTTCTTAA
102101	AGGGCAAGTA	CAAGATAGTG	TTTTTATAAT	GAACCAAGTAC	CTTTCTGAAG
102151	GAAAGTAAAC	ATGCATTTGG	GAAACAATGG	GTCAGTCTTT	ACAAATATTC
102201	TAATGATCAC	AGAATTTTTTA	GGCTTTACAT	TATTGTTTCA	GCATCACAGA

102251 AACAGCAATG AACAAAGCAGC TTCTGGGCTA CAGGAAGTAC TTTTACTAC
 102301 AAGTGCCACA CGTCAACACC ACACAGTAAT AATCCTGTTT CTTTATAGACA

X gene exon 1

102351 ACACCGATTT CAGGATGGGC TCCATCAGTG CAGCAAATGC AGAATTTTGT
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 102451 GTATTCCCCC TTGAGCATCA TTGTAGCCTT GGCCATGGTC TATATGGGAG
 102501 CAAGAGGCAA CACTGAGTAC CAGATGGAGA AGGTAAGTTA TGCAAGTAAA
 102551 TACAAGCTCA TTTTGATCCT GGTTAACAGA ACAAGTTATC CATGAAGATC
 102601 TTTGAGACTT TCTCCCCTTA AGGGGCCAGC TGCTGTACAT TTGCCACTGG
 102651 ATTTGAACTT GGCTAGCAGA AGGACATTGA GCCATGAGGT TTGGATCTGG
 102701 AACTAACTTT TCACTTATTG CTTTTCCTA CAAAGGGTAA CAACAGTTTC
 102751 TACTAAGGAG GAGATCTCCT GCTTCAGTTT ATATTATCTC ACAAACCTGA
 102801 CTCCTTCCAG ATAAAATGAA CAAATTTTCA TGTATAAAAG ATGAAACACT
 102851 CAGAAATCAG GAGTCACAGT TCTAAGTACA GTATGGGTGT AGCTGGTTTC
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 102951 AGAGCAGCAC ATGCAGTAAA AAAACAAACA AACAAACAAA CAAAAAATAA
 103001 CCACACAAAT TTCAACCTCG AATGAACTT CTCAGTTCAG CCATTGGTTA
 103051 TTTCAAGCCC AGAATTTGAA CACAAAATCC AGAGACTCTC AGTGAACCTT
 103101 GCATACTTCA TTTCTTCTTC TGCTACTTCC ATTTGCAGGC TCTTCACTTT

X gene exon 2

103151 GACAGCATTG CAGGACTTGG AGGAAGCACT CAGACAAAGG TACAGAAACC
 103201 TAAGGTACAT TATTTTTCTC TCACATTCAC TTTTTTTTTT TTTCCTGAAA
 103251 ACTTAAACT GTTCTGACTG TGCTTCCAAT AGGTCCAGCC CCTTCCCAA
 103301 CCCTAGCTAA TGCTCTCAAC ACATGATATG CAAATGAAAA ACTAAAATTT
 103351 GTTCTAAAAA AAAAAAAAAAT AATGACAAAA AGAAGGCTCA TTTCACATGT
 103401 TGCACCAGAA AAAGTGATAG GATAGTTGAA GGACATTTTG AGCACCAGGA
 103451 TACCTTCTTA CATTGATAAG AACTTGCACA CTTGTAGGGC TTGCTGGAGG
 103501 ACCACACATG AACCATGTGT GCTTTTCTCC TTGGTCACTT GATACATTTG
 103551 GAAAGATAAC ACAAGCCATG CTCCCAGGGC TGTCCTCATC CACTTGGGTT
 103601 CTCCAAGCAC AATGTGGGGC TTGTAAAGGA CAAGAAGATT TTCCGTTTC
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 104001 TCACTCACAT TTTCTGTTTC TTATCACCAA GACTGAGTGT CACCAAATGC
 104051 TATCAGTTGT ACATGCTTAT ATAGAACATC TCTCCCATGG AGCTTTTAGA
 104101 CTCTAATGTA TTTTGTTTGC AAATGTCTGA AACTGTGTG TTTTCCTACG
 104151 TGATCTGTAC TTTATAAATA GTTGCTTTTC TAGTAAATA AGCTAACATT

X gene exon 3

104201 TATACCCTTT TTCCTCCTCT TCAACAACCC AGTGTGGCAA ATCCGTGAAC
 104251 ATCCACCTAC TCTTTAAAGA ACTCCTCTCT GATATTACTG CATCAAAGC
 104301 CAATTATTCA CTCCGCATTG CCAACAGACT CTATGCAGAA AAGTCACGTC
 104351 CTATCCTACC GGTGAGTTGT ACAACAGAGT GATTTTTTGC TAGATCCTGT
 104401 ATAAACCCAT AATCCAGGAG TACTGCCAG AGTATCTGTT AATCCAACTC
 104451 ACCTCAGCGG TGTGGACTTC CACAGCTTTT CATTTGACAT TCTCAAATA
 104501 AAACACACAA ATATTCTAAA TCAAATACAT TTTATCTTTA AAAATAGAGA
 104551 AAAATGCTTC AAAAATAAGG ATTTTATTAT AACAAAACAG TTGCTAATGG
 104601 ATGCTAATGG ACCTGAAGCT GTTTTGGAT TGGTATTTCT TCAAGAAAT
 104651 ATTTGAGCAT TTCTACTACG TAATCTTATC TGGTAAAGTA ATAAAAATCT
 104701 TAAAGATCTT AACATATCAT GCATCGAAAT AATTTTGCTG GCCCAGTTTT
 104751 AACCATTTTC TCCAGGAAAT AAGCCATGAA AACAGTCTAA TAGCATAATT

104801	ATAAAAATCA	TGGAACATTT	TAAGTGCATT	TTATTTTACC	TTCACAGTCT
104851	TTTTAAAAAC	TGACTTGGTA	GCTACAAC TG	TTGTCTTTAC	AGATTTACCT
X gene exon 4					
104901	AAAGTGTGTG	AAGAACTGT	ACAGAGCAGG	TCTGGAAACA	GTGAACTTCA
104951	AAACAGCATC	AGACCAAGCC	AGGCAGCTTA	TTAACTCCTG	GGTGGAAAAG
105001	CAGACAGAAG	GTAAGCTCAG	AGGAGAGTTT	ATAATATACT	TCCTTGTTAC
105051	TACTTTACCC	AAACAACCTC	TGGAAAGACT	ATTCTCTCCA	TCTCCATTAA
105101	TGGATATTTT	CTGTGGAAAC	TGATGACTCT	TGCACACTTT	TTTGTGTGCG
105151	GTGACAGTGA	ATTTAAATAT	ATATGACAAA	GGCAGGGATG	CCACTGTGTG
105201	CTTTCTGTGT	AAGGAGAGCA	TAAGTCATGC	AAGATTGGTC	CCAGCTTCCC
105251	TACAATATTG	GCATCATTTT	ACAAGCATAT	GCTGGATGGA	TAAGAAATGG
105301	GCTTCCGTGG	AAGAAAATAA	TGTGGCCACT	AAGTTGGTGT	AAGAAAAGGA
105351	ATGATTAAGA	GTGTATGTAC	ATTTATCAGG	AAAAAGGTGG	GAAGAAAACA
105401	AGAATCAAGT	ATTAGAAGGA	AGCACAGTGA	GAGGCAGAAG	ATCGGTATCC
105451	CTGTTTGTCT	TTTCACTTCC	TTCTGTTCCA	TGCAAGTCTT	TTTCCAAGGA
105501	CGTTTGTGAT	ATTCTTGGGG	ATGTGTGTGA	ACATTCAAGC	CTACATGCCT
105551	CCTTACAGAA	ATGCCTGGTT	AAGGGTTAGT	TGTTCTGTAT	GAAATCACTC
105601	GTGAACTTGA	ATTCCACATG	CCATCATTTA	AAGAACAGGA	AGTCAACTCA
105651	AGCTTGCTGG	TTGACATCTA	AAACAAAACA	CTCCTGCAAT	GAAAACAAAA
105701	CCCCACAAAG	CAGCACCCCTC	CAATCCCTTT	GCCTCATACA	TGCAAACCAG
105751	ACAGACTGTG	TCTTAGCACT	CACTGCTTTG	CTTCCTTCTT	ACAGGACAGA
X gene exon 5					
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105851	CTCGTTAATG	CCATCTACTT	CAAAGGGATG	TGGAAGACAG	CATTTAATGC
105901	AGAAGACACT	CGAGAAATGC	CCTTCCATGT	AACAAAGGTA	GGGGACGTGG
105951	TCACCGCTTC	TGGGCAGGAC	AGAAAGCCAT	CAAGGGTGCG	ACATACACCA
106001	TCCTACAGTC	ATTGGTCCAT	GTTTCTTCTG	GGCCCTCGC	TGACAGGCCA
106051	TGGGGCTGAG	CCCAAGACAG	CTGGGCAAAA	ATTGTGTCTG	ACCAGGCATC
106101	CAAAGCACAC	CTGTAGACAA	GAGAGGAAAA	TGGAGACACA	GCTTGAGGAT
106151	CCAGCCCAGT	TCCTCTGAAG	GAAGTGCACA	TCTGCCTGCT	TCAAGAGAAA
106201	CTGCCCCCTT	CTCACATTGT	CTCATGCTTC	TGTTTTGCAG	GAAGAAAGCA
X gene exon 6					
106251	AACCTGTGCA	AATGATGTGT	ATGAACAATA	GCTTTAATGT	GGCCACACTG
106301	CCTGCAGAGA	AAATGAAGAT	CCTGGAGCTC	CCATTTGCCA	GCGGAGACCT
106351	GAGCATGTTG	GTGCTGTTGC	CTGATGAGGT	TTCTGACCTG	GAGCGGGTAC
106401	GGCCCTGGCA	GGGGAAGCCA	ACTAGTTCGG	AGTTCAGTGG	GAGCTGGCTG
106451	CTGTTAGACC	TTTGGCTCTG	CTCTCGCTCC	TTGGCTGTGC	TGTGCTGGCC
106501	AGGCAGGGGA	GCACAACAGT	GGCCCAGGTG	CTTCCAGGCG	CTCAGGCAGA
106551	GGTTGGCCTC	TAAGGAGAGC	CCTAGCCTCA	ATGTTATTAA	ACAAAGAGTA
106601	CAGCAAAGAA	TACAAAGGTA	AAGGAGCGTA	GGGCTGCTGT	AATGTTATAG
106651	AAGGGCACGT	ATGGGCAATT	CTTTTCATTG	AGAGGCAGTT	TCATCTGGCC
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106751	ATCCCTAATA	TTTTTGACAA	TATTCTCATC	AAATATTTTA	AATAAGCTGT
106801	TCTCAGAATA	CCAAAGTAGA	TGCAGAAATA	TTTGTGTTTG	TTTGGTACTA
106851	TCCACTGTAT	ATAAATTGTC	ATGGCATTTC	TTTTTTTGCA	ATCTCTTTCA
106901	CCAGCTGACC	AATCTGCTAT	GATGTGAAAT	TGCTTTATTG	TTCTGTATGA
106951	GACACGAAAA	TATTTGTACA	GAAGGGGATG	TGTCAGGTGG	AACCAAATAA
107001	AGGAGCACTG	AAGAGGAAAT	ACTAGAGAAA	CAAATGTTAA	AATAGGAAGA
107051	TGTTGATAGG	ATGCACCTTG	GGAACTTTC	TATTTTTTTG	TAAAATAATA
107101	GTCTTGATTA	AAATGAACGA	TGGAAAGAAG	TTGCATTCTC	ATCACAGGCA
107151	TTTTATTCTC	TCCCTCTCTT	TTAGATTGA	GAAGACAATT	AACTTTGAAA
X gene exon 7					
107201	AACTCACAGA	GTGGACCAAT	CCCAATACCA	TGGAGAAGAG	GAGAGTGAAA
107251	GTGTACCTGC	CCCAAATGAA	GATTGAGGAA	AAATATAACC	TCACATCTGT

107301	CTTAATGGCA	TTGGGAATGA	CTGACCTGTT	CATCCCTTCA	GCCAATCTGA
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107451	GGTGATAGAA	GACATCAAGC	ATTTCCCTGA	GTTAGAACAG	TTTAGGGCTG
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107551	TACTTTGGCA	GATATTGGTC	CCCTTAAAGA	GAGAAAGAGC	TGGCAATAAC
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107651	AATCTTATCT	CTTTCATAGA	AAAGACATAC	CCGCAGGAGA	GGAGACAGCA
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107751	TATGAGCAAA	GACTGAGCCA	ATGAGATGGT	GAGAATGAAG	ACACCTATCA
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107851	ACCCTAAGTC	CTTGGGAGCC	CGTTACATAG	AAAGCAATAA	GCTTTGCTCA
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107951	AACATGGGCT	TTGAGATCTC	CAGTCTAGAG	GGGATGTTTG	TGGAAGAGTT
108001	TCTGGTGTGC	AGATTATTGA	TTTGTGATTA	TGTCAATTTT	ATTTTCTTTT
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108201	GTTTTGCATA	GGTGCAGTTA	TGCCTTTTCT	CAGAGTGCAG	ATTCAAAGCC
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108351	TTCAAATTTG	AGAACACCTT	TTTGGTGAAA	AATCCTGAAA	GTGTTGTAAA
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108651	ATTTTAAACA	CTGTGAGTAA	AACGTGATTT	AGCAGAAAAA	TGTATTCTTA
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108751	TTAGGAGTAC	CTGTTTTCAA	GAAGAACTTC	ACCAAAGACC	TACAACCAGA
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109251	GGTATGACAC	CCACATTTTT	TGTAGATTAT	CAGGATACTC	ACAATACAGA
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109451	CATCTCTTAT	GTCCATAGAA	TCATAGAATC	ATAGAGGTTG	GAAAAGACCT
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109751	AAAATTGAAG	GTTTCTTGCT	TGCAAGCAAA	TATAAAGCTT	CCCCTTTCTC
109801	AAAAAGAAAA	ACAAGAGACA	GGAAAGAGTG	GAAATTCAGC	AATACTGAAC
109851	AAAAATTGCA	ACAAAATGACT	GATGGCCAAG	CCCTGGCCAC	CACTGACCAG
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CR1 GG

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112651	GAAGGGGCAG	CAGCCACAGA	AACATCTTGC	AGTGTGAGGA	GTGCTCTAAA
112701	TTGTGTGATT	AAAGATATTC	ACCATGAACA	GACACATTCA	GTCACTTGAT
112751	ATGTCTTCCA	CCAGCACAGA	TACCAAAATG	GAACCTACGA	CAGTGGTGAG
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112851	GTTTGATGTG	ATGGGCTACC	AATAAGAGTT	AAGGCCTAAT	GATCTTTACT
112901	CAAAAGTATT	GCTGCTGCAT	AGCAATGTCT	GCACCAGACT	GGACTGGGCT
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113801	CTGTAAGTGG	CATCAGGCAC	AAGAACTAGA	CAATTACATA	CAAGTTTTCA
113851	CTGTAGGTAT	CCCTATTATT	TGCAGAGGAT	TTGGACTAGA	TGCTCTTCAA
113901	GGGTCCCTTC	CAAATCAAAT	GATGCTTTGA	TTCTGTGATT	TTATGAAAAG
113951	TTGCAGTAAG	TACAGGGTGG	GCATAACACA	GCAAGGAGTC	CTGAATGTAC
114001	TGCATTTTTT	ATGTTCTCAG	AATGGTGACT	GCTAGAGGAA	TCTGGACTGT
114051	CAGTACTCAT	AGAGGAAAAA	AAAAAAAAAA	AGGAAATTGA	CTTAAATTCC
114101	TTAGAGACAT	TGTGTACAAC	TAAATATCAC	ACTTTTTTTT	TTTTGCTTTG
114151	TTTTCACTAT	CTGTGCCACA	GTATTTGGTT	CTGTGCTTGA	ATTATACTTA
114201	GTGTTCAAGT	TTCAAGTGAAT	AGCTTTTATC	ATTTTTGTTT	CAATCTTATC
114251	AGTATACTCC	ATCCTTTTCT	CCAAGGTGCC	ATATGATATC	CTTCCTTCTG
114301	GAACFTTTAT	TTAGAGACTT	CTTTCTTTCT	TTCCCTCTTC	CATTCCTCTC
114351	TTCTTTAACT	TTTTCCCTTC	TCCTTTCTTT	TTTGTTTTCT	TTTTTTTCCC
114401	TTTTATCTTT	CTTTCCTTCT	TTTTTCCTTA	TTTCTTTTTT	CTTCTTTCTT
114451	CCTTTTCTTC	TTCAATTTCT	TTTTTCCTTC	CATTTCTTTC	TTTTTTCCTT
114501	CCATTTCTTT	TCTTCCTTCC	TTCTTCCTTT	CCTTTCTTTC	TTTCTCTCTT
114551	TCTTTCTTCC	TTTCTCTCTC	TCTTTCTGTC	TTTCTTTCTT	TCCCTCTTTT
114601	TTTTTTTTTAA	TTTTAATTTT	TATTTTTTTT	TTGTAAATAA	AGGACTTCAA
114651	CCAAGTAAAA	GTGTGTTTCT	GACACTGAGT	TCCATCCATC	ATTCAAGTTG
114701	GCAAACACAG	AATAGGCAGC	ATGGGGTGTG	TCATGACATT	ATACAGGATA

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114751	TATTTCAAGG	AGTTCTGCAA	GGCTGTACCA	CGTACAGCTG	AGAAGCTGTA
114801	CTCTTATCAT	CACAGGTGAA	GCTGATAAGG	TAAGCATTTT	TTTTGGTTAT
114851	GATTCATGTT	CTAACCCATT	TTTTAAAATG	ATCATAAGAC	TTACAAGAAT
114901	ACTGATGGAA	CTTTGTGGTT	TGTCATCAAG	AACAGTCAAG	AAACAAATGA
114951	TTAAAGGATG	ACTTCTTTAA	AAATCTATTG	TTACCTTCAC	ATTTCTGTTC
115001	TGCATTACTG	TACTGTTTCA	CAGCCTGCCA	CATATGAAGT	CAAAGTGTTA
115051	GTACAAAGTA	AAGCTATGTT	TACTAATTCT	GTAACACTGA	GAAGCTGGCA
115101	CTGTACTGAG	ACACCCTTTC	TTCTTTTTCA	TTGATGCCCT	TTGTTTCTGA
115151	TTTAGAAATT	AAATGCAGCA	CTGAATTTGT	TTAAATTCAA	GACTTAAGCT

115201	GAGTTGCATG	GTCTACCTAA	CATACTTTCT	GAATGAAGTT	ACTGAATGCA
115251	GCATGGTCAG	GTATCAACAA	CATACTGCAA	ATTAATTTCT	GTGTATTCTA
115301	AAACAAGCAA	ACGAACAAAC	AAAAAACACA	CACACACATG	CACAAAGCAT
115351	TTGCTTCAAC	AGTATGTTTT	TTCAACAAGA	TCATACATGG	AGCTTAAAGC
115401	TTAAATATA	ATACTCTGTG	GGAGTAGTAA	ATAATCCAGA	AGTTTGCCCT
115451	CTATCACCTG	CACATGTGAT	TCAATTAAGA	GAGAGATGGA	ACACATGAAT
115501	GTGTTGATTC	CACACAATGA	AACATTTGGC	AGAATATCTT	GGATTTCCCC
115551	TGTACTTGGG	AAATTCTACC	CTAGGAAGAT	TCTCTCTGCT	TGTGACAAAA
115601	TGGGAAGATA	TAAGGACCTT	AATACTGCAC	TTTACAGCAC	TGTTGTCTAT
115651	TCTATGTTGT	CTTCTTTACT	AAAGAGTTTT	TTTTTTCCTT	TACTGTTAGA
115701	TAAAATGATA	TGTGTTGAAA	CTACAGGGAA	AATTTTCATTA	GAATGTCAGA
115751	AAAAAAGAC	AGAAAAAATG	TTTAAATACT	GACGATGTGA	AGTATCTGCA
115801	AATGAAACAA	GCCTAAACAA	TCCTGCCTT	ATTTAAAGGT	GGATTTTATG
115851	AAAAAGGTGC	CAATAAAATT	AAAGAACAAT	TTTGAAAAGT	GAGGTATAAT
115901	TAAGTCAACC	AAGAATGGAA	CTGTAAATAT	TTAACAGACA	TTTGTCATAA
115951	AGCAGATGAG	TTTGGTAAAT	CATTATCTCT	TTCTATCACT	GTGCTTCCAT
116001	TTCCCTAATC	TATTTTTAAG	AAGGTAATGA	TGAGGTTTGA	GACCTCTGAT
116051	AAAGTGTTTG	GTATAAGAAT	CCAGCTTCCA	TTTACATGAA	GGTGGAGTAA
116101	ATCCAGAAAA	AAACTTGCGG	TGTTTTTCCA	GACCTACCCA	CTTTATATTG
116151	TCAATAACTG	TAGTTTGGAT	CACAGAGGGC	TGATCTGTTA	ACTGGTCTTA
116201	AAAGTGATGT	TAAAACTAT	AGTGAAAAAC	CTGGTCTGGA	GTCTCAGGTG
116251	AATGAAGACT	GAGAACAAAC	CTATGTGTGT	TTTCTTTCCT	GCACAAGATG
116301	GGAAACGATT	GTCATGAGC	TTCTTTCAAG	GCAAGTCTTT	GCAATATTTT
116351	CAACACAGTA	CACATGTACA	GAGGATAACT	CAAGTTTCAA	ATAAAACAGT
116401	TGCCAGCCTA	CACATAACTG	GTACCTATAC	AAGATTTTGA	TTGCTCACAA
116451	ATCCAAGCAC	ACACCTGCCT	TTTAAATCCA	CACTACTGAA	TTCTACTTAC
116501	TGAAAATAAG	CTGTGCACTG	TGTACAGAGG	TTCAAGTGCA	CTGACTTCCT
116551	TGGAATACAA	CTAATACATT	TTAATCTTTT	CTTTAGACAA	CGATTTTCAGA

Y EXON 2

116601	ATGGATTCCA	TCAGTGTAAC	AAATGCAAAA	TTTTGTTTTG	ATGTTTTTCAA
116651	TGAGATGAAA	GTCCATCATG	TCAATGAGAA	CATCTTGTAT	TGCCCTCTGA
116701	GCATCCTTAC	AGCCCTGGCC	ATGGTCTATC	TGGGGGCAAG	AGGTAACACT
116751	GAATCTCAGA	TGAAGAAGGT	AAGTTGCTTA	CATTGGTGTA	AAGTGGACAG
116801	TGGACTCTAC	TTCTGCTTGT	CATTCCTTCT	AAGTAATAAC	ATATTATCTA
116851	CTCATGAGGC	TCTCACATAT	TTTAATTCAC	CAGATGGATC	ATGAATCAGG
116901	GAATTGTATT	ATTTTTTTCT	AAATTCTGAC	ATCTTCCACA	TAATGTGATC
116951	ATTTTTTTTC	CATATTTTTT	ATTTTTGTAT	TAAAAAGATA	AAACCCTGGA
117001	GGAAAGGAAG	AGGGAGAACA	TTATTCGCAG	TGCATAATAC	ACAACATAAGT
117051	TAACATCCAG	ATGCTCACTG	AAAAAAATAT	AATCTAAGCA	AATAGTGCTA
117101	TTTCCAATTT	CTCAGAAGGT	GACATGAAGT	ATGAACCAGC	TGCAAGCTTA
117151	CTTGCAAGCT	TTTAGTTTCAT	CTAATCTAGC	ATTTGTTGTG	GGTTTTTTTT
117201	TTGTTTCTGT	TTTTGAGCCA	ACAGCTCTAC	CCCGAACATC	ACGTGTAAAT
117251	TTTAAATGCA	TACCATTTTT	GGTCACGCTT	GTGTTTTTTT	CTCACTGGCA

Y EXON 3

117301	TTTTCTCTTG	CAGGTTCTTC	ATTTTGATAG	CATTACAGGA	GCTGGAAGCA
117351	CCACTGACTC	TCAGGTAAAG	ATGTAACCTC	TCTCCTTTTG	TTCCTATTTT
117401	CTCCTCAGGA	CAAAACTAGA	ACTACTCTGC	CTCTGCTCCA	AGCAGTTTCA
117451	GACTGTCAAA	AGTGGTGGCA	ATGCTCTCAA	ACCAAACAGA	TCTGTGGAGG
117501	GAGGAAAAGA	GTGTGTAAC	CACTCTTGTT	TAAAGCCAGG	GAAACTGACT
117551	TGGAGATAGG	TTTATTTGTC	TGTTTAAATGC	ACCATCATCA	GACTAGGTCT
117601	GTGGGTGAAT	TCCACCATGG	CCTGACTGTT	AGTGATGGGG	ACAGTCCTTT
117651	GGGGTCTGAT	TTTCTAGATA	AGGAGAAACT	AATGTGACAT	ATCATCTTGT

Y EXON 4

117701	TTTCCTGTCA	TCACCTCAGT	GTGGCTCTTC	TGAATACGTC	CACAATTTGT
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117751 TCAAGGAGTT ACTCTCAGAA ATCACCAGGC CAAATGCTAC ATACTCACTC
 117801 GAGATTGCTG ACAAACCTCTA TGTTGACAAA ACATTCTCAG TTCTTCCGGT

CR1 GG

117851 GAGTTGAAGT GTGACTTAAAC CTCAGTGAGA TTGCCCACTG GGCTCACCTG
 117901 GGACTCGGCT CTAAGTGTGAG CCACAATGGG AATTGGTTTG AGCCACAGGA
 117951 TGAGTTCAAA CCTTTCTGTG GCTTTTAGGA GGAGGCTAGG CTCACACAAG
 118001 GTATAAGGGC TCTGGAGATA TTCAAGACCC ATTTGGACAC TTTCCTGTGC
 118051 AATCTATAAT GAACCCCTGC AGGGGGTTCA AATTGATGAT CTCCAGAGAT
 118101 CCCTTCCAGC CCCTGCGATT TTGTGACTCT GTAATATATG CCCATGCAGC
 118151 AACTGCTACA GGGAGCAATC AAAATTGCTG CTCATTCACT AAAAAATGTC
 118201 TCTTAATGAA AAAGGTGATT TGTAAGGGAG GAAAATGACT TGAAAGCGTG
 118251 ACGACTGAAA TTGACAAAAA TATTTTGTTC ATCTTTTCTA AAAC TAGACA
 118301 TAAAATAACT CACTTAAAGA AAGTTTGGT TTTGAAATAA AAAACAGGAA
 118351 TGTAAGAATA CACAGTTCAA AAGAAAAGGT AGGCACGAAG ATGAGGAAAT
 118401 GAGTATTGTC TGTCTTAAT AATGTTTGA GAACAGAAGG TTTTATGGTA
 118451 AAATGAAGAA AATATTTCAA AATTTTAACT TAGAATCCAA TCTGAAGACA
 118501 AAAGTGACAA ATCTAAATAT GTGAAGTAGC CTTGTCCAGC TTTAAGATTC
 118551 AGTTACAGCA AGAGAGCTGT TTGACTTGTT CAAGTGTAGG GATAGAAGTT
 118601 TCTTTTAACC ATCACTTTCC ATTTTCATTAA TTTTGCATTT CATATTCTTC
 118651 TATTTTAAAG TTCTCAACAG TCAAACACAA TTCTTCTGCT TATAGGAATA

Y EXON 5

118701 CTTAAGTTGT GCAAGGAAGT TCTATACAGG AGGAGTGGAA GAAGTTAACT
 118751 TCAAAACAGC TGCAGAAGAA GCAAGGCAGC TCATAAACTC CTGGGTGGAA
 118801 AAAGAGACAA ATGGTAAGAA GTAAAAAAT AGCTGATATT TTCTCCTACC
 118851 TACTGTAATC TACGCTCTTG TCTTCTTCTC CTCAAATGT GAAGAAAGGC
 118901 ATATCAAGGA ACAGCACTTG ATTATTGCTA TGAAAGCAA CTCCCATAAA
 118951 ACTCACCATG CCCTTCATTG CAGGCATTCA TGCAAACCAG ACAGGCTGTG

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119001 TCTTAACACT CACTGCTTTG CTTCTTTTTC ACAGGACAGA TCAAAGATTT
 119051 GCTTGTATCA AGCTCCATTG ATTTTGGTAC AACAATGGTC TTTATTAACA
 119101 CCATTTACTT CAAAGGGATA TGGAAAATTG CATTTAATAC AGAAGACACT
 119151 CGGGAAATGC CCTTCAGCAT GACAAAGGTA GGGACATGGG CACTACTACT
 119201 GGAAAAATTC AAGATAAAGT GATCCCTACT CACATTGTCT CATGCTTCTG

Y EXON 7

119251 TTTTGCAGGA AGAAAGCAA CCTGTGCAAA TGATGTGTAT GAACAATAGC
 119301 TTTAATGTGG CCACACTGCC TGCAGAGAAA ATGAAGATCC TGGAGCTCCC
 119351 ATATGCCAGC GGAGATCTGA GCATGTTGGT GCTGTTGCCT GATGAGGTTT
 119401 CTGGCCTGGA GCGGGTACGG CCCTGGCAGG GGAAGCCAAC TAGTTCGGAG
 119451 TTCAGTGGGA ACTTCTGACT GCTTTCAGAC CTTTGGCTGT CCTCTACCC
 119501 CCTGGCTGTG CTGTGCTGGC CAGGCAGGGG AGCACAACAG TGGCCCAGGT
 119551 GCTTCTAGGT GCTCAGGCAG AGGTTGGCCT CTAAGGAGAG CCCTAGCCTC
 119601 AATGTTATTA AACAAAGAGT GTAGCTAACA AAACAAAGGT AAAGGAGCCT
 119651 AGGGCTGCTG TAGTCCTGCA GCAGGGGATG TTGGTATATG CAAGTTATCT
 119701 CCATCAAGTA CTAGAGACAG ATATGCTAGC AGGATTTCTT TTTTACTTTT
 119751 GAAGAAATTT CAATTCCCAG AGATCAAGTA GAGTTCAAAC ACTGTTACCA
 119801 AGTCATAGGG ACCAATTCTG TTGATGACCG TTAATAGATT TTTTTCATGA

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119851 GTCACCCCTC CAAATAATTA AATATAATTT TTTTTTTGTA AATATGAGGG
 119901 ATATTTTAAA TGATCATTTT TCATTGAATG TAGAAAAAAA TAGGAAAAAT
 119951 ATAACAAGAA AACAAACAGC ATTTCTGAGA GGTTAGCTGC AAACATCTGC
 120001 AAATGAGCAA AAATTTGATT TGACATAATC AAAAAGTAT TTTTCAGAAA
 120051 AGCATTTGAT CTGTTGGAAG AATTTTCAGA TGACAAAGTT TTGGAGAGCT
 120101 TCATGAAGAC AGATGATATG TAGGCTATAG TCAGGAAGAA GCACAAGGGA
 120151 TAAACAAATA GATTTAAGCT TAAGCGTCAC TTCTGTTTTG CACACAAATA

120201	AATGAAATAA	ATAGCAACAA	GTGGTATTAA	TACAGTTGGT	ATGGCCACCA
120251	TACTCCTGCT	TTATGCATTT	CATTGTCTCT	TCTCTTTGCA	GATTGAGAAG
			Y EXON 8		
120301	ACAATTAACT	TTGACAAACT	CAGAGAGTGG	ACTAGTACCA	ATGCAATGGC
120351	AAAGAAGAGC	ATGAAAGTGT	ACCTGCCCCG	CATGAAGATC	GAGGAAAAAT
120401	ATAACCTCAC	ATCTATATTA	ATGGCCTTGG	GAATGACTGA	CCTGTTTCAGC
120451	CGTTCAGCCA	ATCTGACTGG	CATCTCTTCA	GTAGATAACC	TGATGATATC
120501	TGATGCTGTC	CATGGGGTGT	TCATGGAAGT	CAATGAAGAG	GGCACTGAGG
120551	CGACAGGTTC	AACAGGGGCA	ATTGGAAACA	TCAAGCATTG	CCTTGAGTTA
120601	GAAGAGTTTA	GGGCTGACCA	TCCATTCCCTC	TTCTTCATCA	GATACAACCC
120651	AACCAATGCT	ATTCTATTCT	TTGGTAGATA	TTGGTCGCCC	TAAAGAGAGA
120701	AAGAGCTGGA	AATAATGCTT	ACCTTCCCCT	CAGAAATCAA	ACCTCTTTAC
120751	TGTAGTATTG	TAGCATAATC	TCAATGCAAT	ATTTTATCCA	AGTGGAAGC
120801	CTTCAATATC	TAGGGAGACA	TTCTTGAAGA	AGCATGTGAA	ATTTTCAGATC
120851	TTTATATGCA	GGAATTTATT	CTCAGCTTAG	ATTCAGGATT	CATATCCAAG
120901	GTGTACATAT	TCCCAATGTG	CTTGAATAAC	TTGGGAAACA	GGGCCAGTGC
120951	TTTGGGGTTT	TTTTTGTGTT	TTTGTTTTTT	GTTTTTTTGG	TTTGGTTTGT
121001	TTTTTTCTGG	TTGGTTGTTT	TTTTTTTTTTG	TGTGTGTGTG	TGAGATTCTG
121051	CCATTGTTAT	TGAGAATCTG	GTTTCTCTAT	AGGAGTTCTC	TGAAATAAAC
121101	ACAGCTTTCA	GGAAAATCCT	GGTCCTTTCC	ATTGAATTAG	CTGGGCAGTC
121151	ATCCTAGAAC	TGATGCCTGG	ACAACCTGCA	GATGAAATTT	TTAACTTCAG
121201	CAGACCATTT	GTCTTCCAGT	AATCCATTG	GACTTATTG	TGCTGCGTAA
121251	CATTTTTTCT	GAGGGAGCAT	ACAGAAAGTC	TACCATTCT	TCTTAAATCA
121301	TCTCCAAACA	AAACATCTTC	CTGATTGATA	TTATTTCCCA	TTTTCATCCC
121351	AGTGACATGT	CACTGATTTT	GTGAATGTTA	ATTAATGGTC	TTTCTATTTA
121401	TTCTAATAAA	AGCTTCGCAA	ACAAAACATG	TCATTACCTA	TTCTGGGTTA
121451	CTGTACTACA	CAACCTGAAA	AATACGATAT	AGCGGGTAAT	AATTATTGAC
121501	AGAGGTGACT	AAGCTGGTAT	GTGGATCCTA	TTTTCAAAAT	CAGAATGTAC
121551	CCATATATGA	GGTCACTAAA	TATTTTAAGA	TTAAAAAAA	AAAAACAAC
121601	TGGGTTTAAT	CAAGGTAAAC	CCTATAGCTC	CTACTCTTCA	ATTGAGCTTC
121651	TCCCAATACA	GCATACCAA	TAACAAAATT	TTTTGAATTT	ACTGAATTTT
121701	CAGAGAACTT	TTACAGAAAT	CCTCTAAGGG	TCCTCAGTAA	ATACATGAAG
121751	GTGATGTGTA	CAAGATAGAA	TTTTAAAATA	TGAGAAAGGT	ATTAAAAGGT
121801	AGACTGCTTC	AGCTTCTCTA	TGCTGACAAG	AATCACATGA	AGAAATCTTT
121851	CTATTGCCTC	ATGTGATATT	CCTCTCGAGA	TGTTGTATGC	TATTTACCGG
121901	TCTTTAGAGG	AAAGGGTCTT	TAGGTTATAT	ATTATCCAAT	TATAATGGTT
121951	ACTAGTGTTA	ATGACAGTTT	TCTGCTAGGA	TACACATGCA	GAATTGCAAA
122001	TTACAGTATT	GGTACTGAAA	ATGTAGCGAT	ACTTCAGTAA	TTCAGAGCTG
122051	CCTCAAACAC	ATGCCATGTC	AGCATTAAC	ATAACTTGAA	ATGATGACAT
122101	TAGCAGCAGT	GAAACACGTT	TCATACCCAC	TAAAAATGGG	AGAAATGCGA
122151	TTACTGGTCT	TCCCAAGAGG	GTCAGAAGGA	TTAGGTACAG	TTTGCACAAG
122201	GATTCAAGTA	AAAAAAAGTA	TTTCAAGAGC	TATGAAATTT	CAAGTTTTAC
122251	TGTGTACATC	ATGTTATTTT	CCTCTTACAG	CTGAAATCAG	TCAATACAGT
122301	TTTGCTACAA	CTAAAACCAA	CCAACCAAAC	AAACGGCAAA	GGAAAAAAGG
122351	CAGGACTGGT	AAAATATTGT	CCTGAGCAGC	AGAGTGTGTA	AGGTTACTAA
122401	GCAGTTATAA	TACTGTGTTG	GAAGTAAAT	ATGCAGCTAT	GTCCTCTGTC
122451	ACTTTCTAGG	TACAATAACA	GTAAAAGTAC	CCACATTTAC	TATGGAGGTA
122501	TTTAATATAT	AGCGTAAACT	AAAAAAACAG	CTATTCAATT	GTTTGATCTT
122551	TTTAAAGCAA	AAGATGAAGA	AAATCAAGGC	AGAAATGATA	AATGAATTTT
122601	AAAACTATA	CAAAAAGAGG	TATTCAAGGC	ACAGAGTCCA	CCTAATGTCT
122651	TAAGTGTGAA	ATGGAAGCAT	TTGACTTGTT	TTAAAAAGGC	CATTAGGTGT
122701	CACTAAGGGT	AAAAAGTTAC	GTTTATCAGC	TTTCAGAAAG	AGGATGGCAT
122751	TCCAAAGGTG	CCTCTGAGCT	CTGAAGCCCA	GCAAGGGATA	AGAGAAATGA
122801	ATCCCAAGTC	CAGCTATTGT	CCAAAAGTCC	TTTTTGTTCC	CTGATACCAT

122851	GACTGAAGTT	GTCATGTCAA	GACATTGCCT	TCTGTCTGTT	CACTACACCT
122901	CATGTTCTCT	CAGTGCTGTG	TTCTTAGAGA	GGCAGTACTG	CTAGTGGTCC
122951	GCGGAATGAA	AACAGCCAGG	TGTAATCACA	CTCTTTTGAA	TGCCTCATGA
123001	GAAGTGCTCT	CTGGACTAAG	TGTAAC TTTC	CTTCTCACAT	CATTTGGAGA
123051	AGGGACCATC	ACAGAATCAT	TTGGAGACCA	CCTGCATCTA	TTCTGCACTT
123101	CTCTCCACAT	TTGCC TATCG	TCTTCTAAGC	AAACCGAATC	TATGGCTGAA
123151	GTTACAAGAC	TCTGCATGTG	GTGTCACAGT	CACCAGAGGC	AGAGGACTCA
123201	AGAGAATATC	CTGGTCCAGA	GCTACTCTGG	GATCTCAAAA	GTCACTTGGG
123251	AAAGCACAGC	ATGTTGAACT	AGACTTTGGT	GTATTTTTCC	AATCTTTATC
123301	AGTCTACAAA	ATATCAACTG	GACATGGAGC	AGTGGTTCAC	TTTGGTGT TT
123351	CCTGTGGCTC	ATGATCTAAG	ATTCTTCAGT	CTGGAAAATA	AACTGCAGAG
123401	ATTACTGTTG	AGGAGCAGCA	AGTGTCAGTC	TGCTCAGCAA	GGGAAGGAGA
123451	CTGAGGGCAA	GGGAAGGAGA	CCGTGCCAGT	AAGGCTAGAA	GGGCCCCGATA
123501	AGGGATCAAG	TGCTAAATTT	TCCAATATTA	TAGCCATAGT	TTAGTGATTT
123551	CCAGAGAAAT	ATGTAGTGAT	TGGTAGGCC	AAAGATCAAA	CCAGAAGGCC
123601	CCAGAATGGC	AACAGGTGAT	GATCCCTGTG	GCACATTCTC	TATCTTGAAG
123651	TAAAACAGCA	TGGATCCATA	TAAATACATT	CTTGCTCAAC	AGCAGAAAATA
123701	ACAAACAGTA	TTGCTTACTT	CTACGAATAT	CCTAACAAAA	CATGTAGATC
123751	ACAATGCCAC	TGAACCTTTG	TATGGATGGA	ATCTGTGCAA	TCTGCCATGA
123801	CTAAAGCTCT	GTCCAAA ACT	GCACAACTTA	GGGTGCCCAG	CTTCTGAAGG
123851	GATGTGAAAT	TATCTGTGCT	ATCTCCTTTT	CCCTTCTTGT	GTTAGCTCCA
123901	GTAAACTCTA	TTTTAAGAAA	TACCTTACAG	TTTCTGATTG	TCTTCTTTAC
123951	TGGTATCCAA	AGGGACTCCT	ATGCATTACA	GGGTCCTCCA	GCACAGTGAG
124001	GTTCTTGGCC	TGGTGCAGGC	ATGCAAAGTA	GCTTAGGCAC	GGGTCACAAT
124051	CAAGATACTC	AGTTTAATGC	TTCTCCCAAG	TGATGGGATG	CTAAAATCTT
124101	ACATGATTTT	AAAAGGAAAG	TGTTCAA ACT	GTGGAAGAGA	AATCCACTGA
124151	CAAATAAGAA	AGATACAGAA	AATAAAGTTA	GCTATAGAAG	ACATGGAACA
124201	GGAATAATG	TTAGA ACTCT	GAGGGCAAGA	GTAAGCCTTA	ACAGTAATGA
124251	CAAGCCTCAC	TGGAGGAGCT	CTTCCACATA	CGTTGTTCTC	ATGGGCCCAG
124301	GAGTCTGTAC	TGGAAAT TGG	CACACAGTTT	GGGTACCGGG	GGCGATCTTT
124351	GTGAGATGAA	GCCCTGAACT	GCCCTGGGTC	AGCTGCAGGT	GTCTCTGTAA
124401	TGGATGAAAA	CAACTCACTG	TGCACCAGAT	TTTCAGCTAA	TAAGAAAAGC
124451	ACATGGCATC	TCTGCTCAAA	CAGAATCATA	GAATTGCTCA	GGTTGGAAAA
124501	GACCTTAAAG	GTCATCGAGT	CCA ACTGCAA	CCTAACCAAC	TACCCTAACT
124551	CTAACAACCC	TCCTCTAAAT	CATGTCCCTG	AGCACCACAT	CCAAACAGTT
124601	TTTAAACACA	TCCAGGGATG	GTGAATCAAT	CACATCCCTG	GGGAGCCTAT
124651	TCCAGTGCTT	AACAACACTT	TCTGTAAAGA	AGTTTTTCCT	GATATCCAAC
124701	ATAAACTTAC	CCTGGCACAA	CTTAAGGCCA	AATTTAATTA	GAAAATGTAG
124751	CAGCACTGCA	ATGTAGCAAA	TGTAATTACG	AAAAGGTGGT	AGCTGCTAGG
124801	GACAGAGGAC	ATGCAAATAG	ACCCAAAAGA	TAAAGACTAG	AAACAGAAAA
124851	AGGGGACATG	TGAGAGGTAT	GTTTGGAGAA	ACATAACAGA	GGAGATATTT
124901	GAAAGGAGAT	CTTGGGAGCA	CAGGCAAAGA	CACAATCCTG	GGAGGAGGTG
124951	CTCCATGCTA	GAGGATGTAC	CTCTAAGGCA	CCGCAGCCAT	GGGCAACCAA
125001	CACAGGTCAG	CGTCATCCTG	GTGAGACTGT	ATCCCACAAG	CAGCTAACAC
125051	TGGAGTAGGG	ACAGCCCCGA	AGAACTGCAG	CCCAGGCAGC	ACACTAGAGC
125101	AGAGAAATCT	AGTTAGCAGC	AACCACTGGC	AGACAGAAAT	GATTATATAG
125151	ATTACATACT	GACCTAGCC	TCTTACACTG	CCTACTGCAT	CACTGAAAGG
125201	ACTGGGAAGA	AGAGAGTGCA	ATAACGTAGC	TGAAACTAGG	AGGAAGGCAA
125251	GGAGAACTGA	AGCTGACTAG	GGAAAAGGGG	GATTAAAGGT	TTAAGTGTCT
125301	ATTCCATAGT	TTGCTGGTTT	GTTTTTTGTC	AATTCCTGAA	TCAGTAATTT
125351	TTATGTTAAT	TAGCAAAAAA	TTACAAACAC	TCCCCAAGTC	AGGACTGTTA
125401	CCTACAACAG	AAGCTCAGAT	CAGCTGAGCC	TTAGTCTTTT	GGTCCCTCCC
125451	TAGGGAATGC	TGTATGTGTC	TCTCTCTCCA	GGCCTGCTCA	AAATTGACCT
125501	CAGACCCAAA	CTTTTGCTGA	ATCTCCAGTA	CCACCTCTTT	TGCTCCTAAC

125551	TAGATAACAA	AGCCCTGAGC	GCTTTGCTTT	TAGCAAAGCC	TTTAAGTGCC
125601	ATTACCAACT	GCACCTGGAG	CCTTTACCTA	CCCCTATGGA	CCCAGGCTCT
125651	ATATTTAAGC	TCTGCCCTGA	ACCTTCACTT	CTTTCCTGTC	CTAAGTTAGA
125701	TGTACTAGTA	TGGTGTGTAC	TATGTCTCCA	GTTCAAACAC	AGCTGTGCCC
125751	ATACCTGGCC	AAGGACTCCT	AGTATGACCT	GGGCTGTGCC	TTGCTGCTAA
125801	GGACCTGCTG	GGTGATTGCT	GGACCTGATC	CTAATCCTGA	ATTAAGAAAT
125851	GATTTCTTGG	CTTGACTGGA	TGTGCCCTGT	GGTATGATAC	TGCCTTATGA
125901	TTTGGACTCT	TGTTTGCAGC	TGTGCAAATC	CCTAAGGAGC	CCAGTCTCTG
125951	GCCACCTGGA	ATCTTGTCAC	TACCAAACTT	CCTGAGGGAC	TGGTCTTGCT
126001	CTGGGTTCTG	ATCTCTGGAC	AGTACTCACC	CTTTACTCAG	CCCAGGCTCC
126051	CAGTTAAGCC	CCTTTCACC	CTGCCAGGCT	CTCCGCTCCA	TCCCTAGCAG
126101	GGGCTCTCAT	GACAGTGTGA	CCCCCCTTA	CTCAGGTCAG	GGCCACTTGT
126151	GCCACGTTCC	TTTCCTGTCT	TCTGTCCCTG	CCTTGGCTCT	AAAGCAGTGT
126201	GCTACCATCC	ACAACCACTG	CATCTCTCTA	AAGTAAGCCT	CTCCTGAGCC
126251	CAAGTCTCTG	TAACGAGGAA	GGATGCACTT	TGCTCAGAAG	GATGCGAGGC
126301	TGCTTCTGAG	CTCTGAGGGC	ACTGACCTCC	CATGAGGTAC	ACCCCATACC
126351	CAGGACCACA	ATTCAGCCTG	CTGGAACCAT	CAACTCCTGC	TGGAGTAAGG
126401	CCATAGCAAG	ACCAGCATCC	ACCTCCCTGC	AGCCCTGCCC	TGCCCAGATA
126451	TTGGGCCTGC	TGATCTCAGG	ATGCAGACTT	GCTTCTCAGC	TTGACCTAAG
126501	CATTGCCCTG	TCTTTATGGA	CCCACCTGGT	TAGCAAGTTC	AGTGCAGAAG
126551	GAGGCTGTTG	GCATCTAGCT	AATTTTCCAC	CCACATTACT	GTCTGCTGAC
126601	TCATTCTACG	TCTCTCCCAT	CTTGTTACAA	TAATAATTTG	GGAGATCATA
126651	TTGAAGGTCT	TAATAAAGTC	AAGGCATGTG	ATATTCTCTG	CTTTGCCTTT
126701	GTTTCTAGAA	TAAGCCACTT	CATCATAGAA	GATGAAAATG	CTGATCAGCA
126751	GAGATCTGTG	CTTGATAAAT	CCATGCTGGC	TTTTCTATC	ACCTTATATT
126801	CCTTCATATG	CCTTGAGACA	CCCAAGGAGG	CCTTGGATCA	GAGCTGTCTG
126851	TAGCAGTCCT	AACTGGTATA	CAATTAGTTG	TACAACAGGT	AGTGATCCGC
126901	ATAATAGTTG	GCGTGAGAAA	GTGGGCCTGT	GCTGTGTCAA	GCATAGAGTT
126951	TGGGTTCCAG	TCCTGTTCTG	CATGGCACAT	ATGCCTGAGC	AGCTGGGTAA
127001	TCTCTGCATT	CCAATTGGAA	GGCAGGGGCC	TGTAGGCAGT	TCCCACTTGG
127051	CATGGGTGAT	TGTACCACCT	GTGTCCTCAT	CTGTGAAGCA	TCATGTTTTT
127101	ATTCAAATAT	CCTTTTGTTT	GACAGTAGAA	ATGAACAGAA	TTGTTTTTTT
127151	TTCTTAAGCA	AATTCTGCAA	GAGCTCTGAA	GAACAAGGTG	TCAGTGAAC
127201	TCTAGCTCCA	TAGATAGGAC	TTGCATCACA	TGTCATGCCT	TGATTGGAGG
127251	TCTATCCGAT	ACTGAACAAC	TTGTGGTTCC	CTGAGGGAAT	GTAAGATTAC
127301	TGATACTACT	CTCTCTTTAT	GTTAGCTACA	ATAAATGGTA	GGTTAAGCAA
127351	TAGATACAGA	GTTTGAGTGC	CTTTCTTACA	AGCATCATAG	TGAACAAATC
127401	CACTGGTGAT	CTACCTTTTC	AATAACTACA	GAGAATTGTA	ATCTCTTGGA
127451	TTCTCCTCCT	TCCCCGTTCT	GAAAATGTGT	TCTTTTTTTC	CAAATCAGAA
127501	ACCTTCCTCA	ACCACCCTGA	CTATTCTTTG	GACATTGTTT	TGTTCTTGCT
127551	CCTAAATAGG	CTTTATAATT	TTTGTAAGTG	AAAGGCTTTG	CATGCAGGTG
127601	AGGCTACAAC	TCATTCACTA	ACAATGAGGA	AGACTGTCAG	ATTTTGGGGA
127651	AAATTCTCCC	ACCCAACCTT	TTGCTAGCCA	GTAAGATGTA	ATCACTGAAT
127701	GTCATGCCAC	AAAGACCATA	CCAACATCAG	ACCACATATC	TACAGGAAGC
127751	TTTAAGGAAT	CATTGACTGT	ACAGTGAAGG	GTAAATCAAA	TTAAATGAA
127801	TGTGAGGTCT	GATACGAGAT	ATCCTCATGG	GAATCAAGAG	CAAAGACAAA
Y:OV-1 HOMOLOG Y HS-III SITE					
127851	TAGTTTTTCA	CAGTCTTGTC	ATGATCTGTC	ACAGACCAAG	GCAGCACAGC
127901	AGGCAACAAT	GTTGGTCTCT	TCAGAATGGC	ACAGCACC GC	TGCAGAAAAA
127951	TGCCAGGTGG	ACTATGAACT	CACATCCAAA	GGAGCTTGAC	CTGATACCTG
128001	ATTTTCTTCA	AACAGGGGAA	ACAACACAAT	CCCACAAAAC	AGCTCAGAGA
128051	GAAACCATCA	CTGATGGCTA	CAGCACCAAG	GTATGCAATG	GCAATCCATT
128101	CGACATTCAT	CTGTGACCTG	AGCAAAATGA	TTTATCTCTC	CATGAATGGT
128151	TGCTTCTTTC	CCTCATGAAA	AGGCAATTTT	CACACTCACA	ATATGCAACA

128201	AAGACAAACA	GAGAACAATT	AATGTGCTCC	TTCCTAATGT	TAAAATTGTA
128251	GTGGCAAAGA	GGAGAACAAA	ATCTCAAGTT	CTGAGTAGGT	TTAGTGATT
128301	GGATAAGAGG	CTTTGACCTG	TGAGCTCACC	TGGACTTCAT	ATCCTTTTGG
128351	ATAAAAAGTG	CTTTTATAAC	TTTCAGGTCT	CCGAGTCTTT	ATTCATGAGA
128401	CTGTTGGTTT	AGGGACAGAC	CCACAATGAA	ATGCCTGGCA	TAGGAAAGGG
128451	CAGCAGAGCC	TTAGCTGACC	TTTTCTTGGG	ACAAGCATTG	TCAAACAATG
128501	TGTGACAAAA	CTATTTGTAC	TGCTTTGCAC	AGCTGTGCTG	GGCAGGGCAA
128551	TCCATTGCCA	CCTATCCCAG	GTAACCTTCC	AACTGCAAGA	AGATTGTTGC
128601	TTACTCTCTC	TAGACCCCCA	AGTCAAACCA	ACTATGCAGG	TATGCTGACA
128651	ACACTATGAT	GACAGCCTGT	TCTGATCAAG	ATCTCATTTG	TTCATGGACA
128701	ATTTTTGTTG	CTTGCAGCTG	GTCTTCCATT	GGGAAAGAGT	GTAGTATATC
128751	CTTCTCATCT	GACAGAAAAG	CAGAAATTCT	CATGCTCCAC	ACTTAATCTA
128801	CATTGTTTTA	AACCACCGGC	TACTTCTTGG	AGAGGAAAAA	TGGCTTTTAT
128851	AGTACTCACA	AAACAAAGCT	CTGCAAGTCA	AATGCATACA	AAACTGTTCT
128901	GTAGGTCTGG	AATCAGGACA	CTATGTGGAA	GTCAAATAGA	GCAGCTTTAA
128951	AAAGCCTTTG	GGATCATTCT	CATCTTATAT	TTGCAGCACG	ATACTATGAC
129001	AGTGATAACT	GACATAACTG	CATCAATTTT	CTTGATATTT	TATTTGTCTT
129051	AAAGTACAAG	ACATAGAGAT	GGACGTAAAG	ATGGACATAT	GACTCAGGTC
129101	TGGACAGGTC	CGTGGTCCAT	GTATGATAAA	AGAGATGAAG	GGAAGGAGAA
129151	TTGAGACTGT	CTAAGAAGGG	CTTCAGGGAC	GTTCTGAAGG	CAGATTTGAC
129201	TGAATCAGAT	GTAATGTCCA	AGTCTCATAT	GTAGCAATGG	AAGGCTGATA
129251	TTGGAGAAAT	ATAAAGAAAT	GGCTGTGAAC	TCAAAGTGAC	CCTGAACAGA
129301	AAAGGGATAT	GGAGTTAAAA	TAATGTCACA	GAAGTGAAGT	TTATATGATA
129351	TACCATGGGC	TGCAGAGGGT	CAGAGTGCTC	CACCATGGGC	CTCTCTTGGG
129401	CTGCAGGGAA	CTTCTGTTCT	ACACCTGGAA	CACCTCCTGC	CCTCCTCCGC
129451	ACTGCACCTA	GTGTCATCAG	GGCTGTTTCT	CTCACATTTT	CTCACTCACC
129501	TCTCCCAACT	ACCATTGTAC	AGCAGTTGTT	CTTACATATT	GCTCCTCCTG
129551	AGGTACATCT	AGCATCGATC	ACTGGCTCAG	CTCTGGCCAG	TGGCAGCTCC
129601	CTTTTGAGGA	CACGGGACAG	CTGCTGGGCT	CTGTTACACAG	AGGCCACTCC
129651	GGCAGACCTC	CACTACCACA	ACTTGTAGTG	TAAATCCACT	ACAACTTTCT
129701	GAGCTACAGA	AATGAAATGG	AGACCCTCTC	TGCTATGGGA	TACAAAAGAG
129751	GAAACGTGGC	GTTTAGCTCT	GGCTCACTGG	TACACCCAAC	CACAGGGTGA
129801	GAAGCAGCCT	GTTGTTATTC	ACTACTCTTA	GGACAGATTA	TGGTGAATTG
129851	TTAATAAAAAG	CATTTCTTCA	TAACATCCAA	AGGAGGAAAT	ACACTAAATT
129901	ATATTTTTTTA	TTAATTAAAT	ACACATGCTT	AATTATATAT	GGCATGGTTG
129951	CTTTGGAAGA	ATCTTGTCCT	TACTGACCAG	ATCTGCTGTT	TGCTGAGACA
130001	AAATGGCTGA	CAATTTTGGC	CATGGTGGAT	ACCTTCCCCC	TTTTCTGTAG
130051	CATTAGGACA	GAAGTTATTC	TGGAGCCTGT	CTGACAAGTT	AGACTTGATA
130101	CCTTTAAGTA	TTTGGAAGTG	TGCTTTTCAT	GCTGGATGTC	ATCTCCAGAA
130151	CCTCCCTGTC	TGGTAAGCAG	TTCCCTGCCT	TAGTAAGAGC	CGAAACGGTC
130201	TCTCTTTTCC	TTGTTATCTC	ACCAGGATAT	TACAATGTGA	CAGGACTATC
130251	TGAACTATGC	CAACCTGCAA	ATTCCAAATA	TATATATATA	TATAAGATAT
130301	CTATACACAA	ATTATTAGTG	TTTGATTGAC	ACCAGATGAC	AGAGAAGTGC
130351	ATCTGAGAAA	ACCTATTCCC	AATCTCCTTT	CTCTTTCTGC	AGACTGACAT
130401	GCATTTTCATA	GGTAGAGATA	ACATTTACTG	GGAAGCACAT	CTATCATCAC
130451	AAAAAGCAGG	CAAGATTTTC	AGACTTTCTT	AGTGGCTGAA	ATAGAAGCAA
130501	AAGACGTGAT	TAAAAACAAA	ATGAAACAAA	AAAAATCAGT	TGATACCTGT
130551	GGTGTAGACA	TCCAGCAAAA	AAATATTATT	TGCACTACCA	TCTTGTCTTA
130601	AGTCCTCAGA	CTTGGCAAGG	AGAATGTAGA	TTTCCACAGT	ATATATGTTT
130651	TCACAAAAGG	AAGGAGAGAA	ACAAAAGAAA	ATGGCACTGA	CTAAACTTCA
130701	GCTATGGTGA	TAGGAAAGTA	ATTCTGCTTA	ACAGAGATTG	CAGTGATCTC
130751	TATGTATGTC	CTGAAGAATT	ATGTTGTACT	TTTTTCCCCC	ATTTTAAAT
130801	CAAACAGTGC	TTTACAGAGG	TCAGAATGGT	TTCTTTACTG	TTTGTCAATT
130851	CTATTATTTT	AATACAGAAC	AATAGCTTCT	ATAACTGAAA	TATATTTGCT

130901 ATTGTATATT ATGATTGTCC CTCGAACCAT GAACACTCCT CCAGCTGAAT
 130951 TTCACAATTC CTCTGTCATC TGCCAGGCCA TTAAGTTATT CATGGAAGAT
 131001 CTTTGAGGAA CACTGCAAGT TCATATCATA AACACATTTG AAATTGAGTA
 131051 TTGTTTTGCA TTGTATGGAG CTATGTTTTG CTGTATCCTC AGAATAAAAG
 131101 TTTGTTATAA AGCATTCACA CCCATAAAAA GATAGATTTA AATATTCCAA
 131151 CTATAGGAAA GAAAGTGTGT CTGCTCTTCA CTCTAGTCTC AGTTGGCTCC
 131201 TTCACATGCA CGCTTCTTTA TTTCTCCTAT TTTGTCAAGA AAATAATAGG
 131251 TCAAGTCTTG TTCTCATTTA TGTCTGTCT AGCGTGGCTC AGATGCACAT
 131301 TGTACATACA AGAAGGATCA AATGAAACAG ACTTCTGGTC TGTTACTACA
 131351 ACCATAGTAA TAAGCACACT AACTAATAAT TGCTAATTAT GTTTTCCATC

NRE: A,B,C regions

131401 TCCAAGGTTT CCACATTTTT CTGTTTTCTT AAAGATCCCC TTATCTGGTT
 silencer (common site)

131451 GTAACTGAAG CTCAATGGAA CATGAGCAAT ATTTCCCAGT CTTCTCTCCC
 131501 ATCCAACAGT CCTGATGGAT TAGCAGAACA GGCAGAAAAC ACATTGTTAC
 131551 CCAGAAATTA AAACTAATAT TTGCTCTCCA TTCAATCCAA AATGGACCTA
 131601 TTGAAACTAA AATCTAACCC AATCCCATT AATGATTCT ATGGTGTCAA
 131651 AGGTCAAAC TCTGAAGGGA ACCTGTGGGT GGGTCACAAT TCAGACTATA

Ovalbumin exon L

131701 TATTCCCCAG GGCTCAGCCA GTGTCTGTAC ATACAGCTAG AAAGCTGTAT
 131751 TGCCTTTAGC AGTCAAGCTC GAAAGGTAAG CAACTCTCTG GAATTACCTT
 131801 CTCTCTATAT TAGCTCTTAC TTGCACCTAA ACTTTAAAAA ATTAACAATT
 131851 ATTGTGCTAT GTGTTGTATC TTTAAGGGTG AAGTACCTGC GTGATACCCC
 131901 CTATAAAAAAC TTCTCACCTG TGTATGCATT CTGCACTATT TTATTATGTG
 131951 TAAAAGCTTT GTGTTTGTTT TCAGGAGGCT TATTCTTTGT GCTTAAAATA
 132001 TGTTTTTAAT TTCAGAACAT CTTATCCTGT CGTTCCTAT CTGATATGCT
 132051 TTGCAGTTTG CTTGATTAAC TTCTAGCCCT ACAGAGTGCA CAGAGAGCAA
 132101 AATCATGGTG TTCAGTGAAT TCTGGGGAGT TATTTTAATG TGAAAATTCT
 132151 CTAGAAGTTT AATTCCCTGCA AAGTGCAGCT GCTGATCACT ACACAAGATA
 132201 AAAATGTGGG GGGTGCATAA ACGTATATTC TTACAATAAT AGATACATGT
 132251 GAACTTATAT ACAGAAAAGA AAATGAGAAA AATGTGTGTG TGTATACTCA
 132301 CACACGTGGT CAGTAAAAAC TTTTGAGGGG TTTAATACAG AAAATCCAAT
 132351 CCTGAGGCCC CAGCACTCAG TACGCATATA AAGGGCTGGG CTCTGAAGGA
 132401 CTTCTGACTT TCACAGATTA TATAAATCTC AGGAAAGCAA CTAGATTCTAT
 132451 GCTGGCTCCA AAAGCTGTGC TTTATATAAG CACACTGGCT ATACAATAGT
 132501 TGTACAGTTC AGCTCTTTAT AATAGAAAACA GACAGAACAA GTATAAATCT
 132551 TCTATTGGTC TATGTCATGA ACAAGAATTC ATTCAGTGGC TCTGTTTTAT
 132601 AGTAAACATT GCTATTTTAT CATGTCTGCA TTTCTCTTCT GTCTGAATGT
 132651 CACCACTAAA ATTTAACTCC ACAGAAAGTT TATACTACAG TACACATGCA
 132701 TATCTTTGAG CAAAGCAAAC CACACCTGAA AGTGCAATAG AGCAGAATAT
 132751 GAATTACATG CGTGTCTTTC TCCTAGACTA CATGACCCCA TATAAATTAC
 132801 ATTCCTTATC TATTCTGCCA TCACCAAAAAC AAAGGTAAAA ATACTTTTGA
 132851 AGATCTACTC ATAGCAAGTA GTGTGCAACA AACAGATATT TCTCTACATT
 132901 TATTTTTAGG GAATAAAAAT AAGAAATAAA ATAGTCAGCA AGCCTCTGCT
 132951 TTCTCATATA TCTGTCCAAA CCTAAAGTTT ACTGAAATTT GCTCTTTGAA
 133001 TTTCCAGTTT TGCAAGCCTA TCAGATTGTG TTTTAATCAG AGGTACTGAA
 133051 AAGTATCAAT GAATTCTAGC TTTCACTGAA CAAAAATATG TAGAGGCAAC
 133101 TGGCTTCTGG GACAGTTTGC TACCCAAAAG ACAACTGAAT GCAAAATACAT
 133151 AAATAGATTT ATGAATATGG TTTTGAACAT GCACATGAGA GGTGGATATA
 133201 GCAACAGACA CATTACCACA GAATTACTTT AAAACTACTT GTTAACATTT
 133251 AATTGCCTAA AAATGCTCG TAATTTACTG TTGTAGCCTA CCATAGAGTA
 133301 CCCTGCATGG TACTATGTAC AGCATTCAT CTTACATTT TCACTGTTCT

Ovalbumin exon 1

133351 GCTGTTTGCT CTAGACAACT CAGAGTTCAC CATGGGCTCC ATCGGTGCAG

133401	CAAGCATGGA	ATTTTGT TTTT	GATGTATTCA	AGGAGCTCAA	AGTCCACCAT
133451	GCCAATGAGA	ACATCTTCTA	CTGCCCCATT	GCCATCATGT	CAGCTCTAGC
133501	CATGGTATAC	CTGGGTGCAA	AAGACAGCAC	CAGGACACAA	ATAAATAAGG
133551	TGAGCCTACA	GTTAAAGATT	AAAACCTTTG	CCCTGCTCAA	TGGAGCCACA
133601	GCACTTAATT	GTATGATAAT	GTCCCTTGGA	AACTGCATAG	CTCAGAGGCT
133651	GAAAATCTGA	AACCAGAGTT	ATCTAAAAGT	GTGGCCACCT	CCAACTCCCA
133701	GAGTGTTACC	CAAATGCACT	AGCTAGAAAT	CTTGAAACTG	GATTGCATAA
133751	CTTCTTTTTG	TCATAACCAT	TATTTTCAGCT	ACTATTATTT	TCAATTACAG

Ovalbumin exon 2

133801	GTTGTTCACT	TTGATAAACT	TCCAGGATTC	GGAGACAGTA	TTGAAGCTCA
133851	GGTACAGAAA	TAATTTCACT	TCCTTCTCTA	TGTCCTTTTC	CTCTGAGAAG
133901	CAAAATACAG	CAGATGAAGC	AATCTCTTAA	CTGTTCCAAG	CCCTCTCTGA
133951	TGAGCAGCTA	GTGCTCTGCA	TCCAGCAGTT	GGGAGAACAC	TGTTTCATAAG
134001	AACAGAGAAA	AAGAAGGAAG	TAACAGGGGA	TTCAGAACAA	ACAGAAGATA
134051	AAACTCAGGA	CAAAAATACC	GTGTGAATGA	GGAAACTTGT	GGATATTTGT
134101	ACGCTTAAGC	AAGACAGCTA	GATGATTCTG	GATAAATGGG	TCTGGTTGGA
134151	AAAGAAGGAA	AGCCTGGCTG	ATCTGCTGGA	GCTAGATTAT	TGCAGCAGGT
134201	AGGCAGGAGT	TCCCTAGAGA	AAAGTATGAG	GGAATTACAG	AAGAAAAACA
134251	GCACAAAATT	GTAAATATTG	GAAAAGGACC	ACATCAGTGT	AGTTACTAGC
134301	AGTAAGACAG	ACAGGATGAA	AAATAGTTTT	GTAAACAGAA	GTATCTAACT
134351	ACTTTACTCT	G TTCATACAC	TACGTAAAC	CTACTAAGTA	ATAAACTAG

Ovalbumin exon 3

134401	AATAACAACA	TCTTTCTTTC	TCTTTGTATT	CAGTGTGGCA	CATCTGTAAA
134451	CGTTCACTCT	TCACCTAGAG	ACATCCTCAA	CCAAATCACC	AAACCAAATG
134501	ATGTTTATTC	GTTCAAGCCT	GCCAGTAGAC	TTTATGCTGA	AGAGAGATAC
134551	CCAATCCTGC	CAGTAAGTTG	CTCTAAAATC	TGATCTGAGT	GTATTTCCAT
134601	GCCAAAGCTC	TACCATTCTG	TAAATGCAAAA	ACAGTCAGAG	TTCCACATGT
134651	TTCACTAAGA	AAATTTCTTT	TTCTCTTGTT	TTTACAAATG	AAAGAGAGGA
134701	CAAATAACAT	TTCTCTATCA	CCGACCTGAA	ACTCTACAGT	CTTCAGAGAA
134751	TGAATGGCTT	GCTAAAAGAA	TGTCAAATCT	TACTATACAG	CTATTTTCATA
134801	TTACACTACT	AAATACACTA	TAAGGCATAG	CATGTAGTAA	TACAGTGTAA
134851	AATAGCTTTT	TACACTACTA	TATTATTAAT	ATCTGTTAAT	TCCAGTCTTG
134901	CATTTACAT	TTGCAAAACG	TTTTGAAATT	CGTATCTGAA	AGCTGAATAC

Ovalbumin exon 4

134951	TCTTGCTTTA	CAGGAATACT	TGCAGTGTGT	GAAGGAACTG	TATAGAGGAG
135001	GCTTGGAACC	TATCAACTTT	CAAAACAGCTG	CAGATCAAGC	CAGAGAGCTC
135051	ATCAATTCTT	GGGTAGAAAG	TCAGACAAAT	GGTAAGGTAG	AACATGCTTT
135101	GTACATAGTG	AGAGTTGGTT	CACCCTAATA	CTGAGAACCT	GGATATAGCT
135151	CAGCCAGCGT	GCTTTGCGTT	CAAGCTTACC	AGAGCTGTTG	TATGCCTGTT
135201	AAGCAGGGCA	TACAGTCATG	AGGCTCTTGA	AAAATCTTAA	CAGACAAAGG
135251	GCAATGGAAA	ATCGGAGTTA	AGGGATGGTA	GGGATAAAAT	GCATAGAAAG
135301	AGGTACCACA	ATTTTGATTT	TTGCCCTAAT	GCCTCTCTGC	GTGGTTCCCTC
135351	AATTTTTCTA	CTTCATTCTT	CATCTCCTCA	GAGCATTCTT	TTCCCTCATG
135401	CTTGAAACAC	AGATGAAAGA	CTGTGAATTC	TAACTGAGAT	GAAAACATCC
135451	ACAACCACAC	AACCTCTGGT	GTGGAGTCAC	ATTCTGTGAA	GGCAAAAACCT
135501	AGGCCACGTA	ATCTATGTGT	GCAAGCTACG	TGTAAGCTAT	GTGTGTGACA
135551	GGACAATGTG	AGGAACATAC	TATGTGCACA	AGGACTGCAG	AATAAACAGG
135601	AGCAAAGTTT	TTGAAGAAAA	CAGAGTAAAA	TCCTGTTTTT	CTCTTTTGTT
135651	ACATTCTTTA	CATATATCTC	AAATTTCTCT	TTTGGTTAGA	AGCAAGTAAT
135701	ATTTATGTTT	CTTGGTACTG	TTTGGGTTGA	AGACCATTCT	GGGATAAGAG
135751	AAATTCCAGT	GGTTCTTCCC	CTAATCATAA	AATGTACAGG	TTTAGTTTTT
135801	TTGTAAACACA	GAAATCTCTT	CATCTTTTAT	CTTTTGTTGT	GATTCTTTAT
135851	AGAGAGAGAA	ACAAGACTTA	CTGACAATAG	CAGCAAGAAA	ATCAATCTTG
135901	GAAGAACAAG	ATTGCAGTTG	CAAAAACAAA	CCAATGTCCT	TGCCCCCTACA

135951 TCCTCTTCCC CATAAATTCT ACATTCTCTA TCTACCTTGT GCTTGCCAAC
 136001 ATGATATACG TAAACTCTCT TTTCTGATTC ATTCTTAAAG GAATTATCAG

Ovalbumin exon 5

136051 AAATGTCTTT CAGCCAAGCT CCGTGGATT CCAAAGTACA ATGGTTCTGG
 136101 TTAATGCCAT TGTCTTCAAA GGACTGTGGG AGAAAGCATT TAAGGATGAA
 136151 GACACACAAG CAATGCCTTT CAGAGTGACT GAGGTATATG GGCATACCTT
 136201 AGAGATGTAA TCTAGAATTT ATGAAGAGAG TAGACATGTT GTTATATGAA
 136251 CACTGCATTA GCGTATCTGC TCATTGTCT GCATCTCTTT CAGACACTGT
 136301 GTTAAAAGCA GGAATTTTTC CTTATGTCTC TCTCATCACA ATATTCCTGA
 136351 CATTGCAAAG CTCCTGAGAA ATAACCTCAG ATTCCTCACTT TTCCTAGGAA
 136401 GGTCTTCTCTG GATGAGAACA ATCAATCATC TTAAGTGTAA CTAGATATTT
 136451 CTGCATCTAA GAATAATCTT TGTTAAAAC ATATTCTCTC TCTCTTTTTT

Ovalbumin exon 6

136501 TTTTTTTTTT GGTCTCCAG CAAGAAAGCA AACCTGTGCA GATGATGTAC
 136551 CAGATTGGTT TATTTAGAGT GGCATCAATG GCTTCTGAGA AAATGAAGAT
 136601 CCTGGAGCTT CCATTTGCCA GTGGGACAAT GAGCATGTTG GTGCTGTTGC
 136651 CTGATGAAGT CTCAGGCCTT GAGCAGGTAT GGCCCTAGAA GTTGGCTTCA
 136701 GAATATTAAA AACACATGGA AATTTAGCTG TTGTAAAGCT CTTTTCAACA
 136751 CAGTTATCCT AAAACATTTA ACCAGCACAA ATTTTCATCAT GATTCAATAT
 136801 GTGATTGTTG CATAGAAGTG TAGATTTGTC CCACTGGGTC CTGCAATAGC
 136851 CCATGCTGAG CATGGCTTGC TGAAAGAACT GCTTTAGAGG GTGAAAAGTT
 136901 TGACACAGCA GACAAGATGA TTCTCACCTA AGCAGCTGTT ACTGTAGTGG
 136951 CTTGAACTCT AAAGGTCTTG TATCTCCATT CCTGTGCACT GAGGAGCTTC
 137001 TTGGAAGTT CATATAAGGT TTAGTAGTTC TAAGTATTAT CTCATTTGGT
 137051 GGCATCAAT GTGCTTTGTT CACGTCTTCA TAAATTAATC TATCTAAAAA
 137101 TTGGATGTGG TTAAAGCAAT TTCAGAAATA ACATGTACAT AATGTACAAT
 137151 TATTGTATAT AACAGAACAC AGGCATAGCA TATTGTAATT AGGAGGACTG
 137201 TAGTTATTTT GAATAGGAAA CACAATGTAA TAAATGAGAA TTCATTGAAA
 137251 TGTTAGTAGT CTAAGTCAAT CTAAATTATA AAGATAAAGA GGCATTTAAT
 137301 CACAGCTAGA TTTCCATCAC TTGTGACAGA CAGGCATATG AATGATTATG
 137351 TACAGCTCTA GAAAAAAAAG TATGTAGGAA AACTAGTACA TTTTGATTAG
 137401 AAAGTCTGAA AATGAGGTGC CTTGATCAAA GAGAATACGT GTGTTTGAGA
 137451 AAAAAAAGT TTGGATAGAG GTGGTAAGAG AGAATATATT GAAATGGTGT
 137501 TTCTACAAAC TGCCATGGCC AGATTGTGT AAGAGACATT CAGTAAGTAG
 137551 GCAAGGAAAG AAATATTACT AGGTACAAAG CAACATTAGT AATACCAAAA
 137601 GAAACCAATT ATTCCAGATG CCAATCTCGT AATAGGGTTA AGAGATTTCC
 137651 ACCCTCTAG TAGTCACCAG TGCAACCAGT AACTTTGCTA ATTTACATTT
 137701 TCTTTTTTTA AATGGCAGAT ATAGCTTTGA ACTGAGTGAT CATGAACTGG
 137751 TACTGTGTAA ATAAGATGGA AGCATACTTG GGAGCTAAAC TTCTAGTTTT
 137801 TAAAAACTCA AATTCTCTTG AAAGATCAGT TCCCAGTCTA GTAACAGCTG
 137851 ATAGTTTAAG TATCAGTAAT TGGCTACCAT TAACAAGTGG CTCCTGAGAG
 137901 GTCTTAAATG TAGAGACAGC TTTAAACTCA AAAGCACAGA GTGATTTTTA
 137951 GAATAGATTT CCCAAGCAAA GAAAATAAAC AGGGAGGAGC TTAAAGGGAG
 138001 TAGCCATCTC ATTATTATTA TTATTTAAAG AAATGGCAGC AAGGCTATAA
 138051 AAGAAAAATA AGACAGAGCA GAGAAGAAAG AGTCATGGTA TGCTTTTCTA
 138101 TCTTAGCAAA ATTAATCTCT ACATGCCTAG GAAAAAGCCA TGACAAGAGC
 138151 AATCAGTTCA AAAGGTGTAT GCAAAAAAAC ACATAATAGT AACTAGTACT
 138201 GCATTGCCAG GAAGGAAGTT ATGTCGCCAT TCCATGGATC TCATTCTCAT

Ovalbumin exon 7

138251 TTCCTTGAC CTTGAGAGTA TAATCAACTT TGAAAACTG ACTGAATGGA
 138301 CCAGTTCTAA TGTTATGGAA GAGAGGAAGA TCAAAGTGTA CTTACCTCGC
 138351 ATGAAGATGG AGGAAAAATA CAACCTCACA TCTGTCTTAA TGGCTATGGG
 138401 CATTACTGAC GTGTTTAGCT CTTGAGCCAA TCTGTCTGGC ATCTCCTCAG
 138451 CAGAGAGCCT GAAGATATCT CAAGCTGTCC ATGCAGCACA TGCAGAAATC

138501	AATGAAGCAG	GCAGAGAGGT	GGTAGGGTCA	GCAGAGGCTG	GAGTGGATGC
138551	TGCAAGCGTC	TCTGAAGAAT	TTAGGGCTGA	CCATCCATTG	CTCTTCTGTA
138601	TCAAGCACAT	CGCAACCAAC	GCCGTTCTCT	TCTTTGGCAG	ATGTGTTTCC
138651	CCTTAAAAAG	AAGAAAGCTG	AAAAACTCTG	TCCCTTCCAA	CAAGACCCAG
138701	AGCACTGTAG	TATCAGGGGT	AAAATGAAAA	GTATGTTATC	TGCTGCATCC
138751	AGACTTCATA	AAAGCTGGAG	CTTAATCTAG	AAAAAAAATC	AGAAAGAAAT
138801	TACACTGTGA	GAACAGGTGC	AATTCACTTT	TCCTTTACAC	AGAGTAATAC
138851	TGGTAACTCA	TGGATGAAGG	CTTAAGGGAA	TGAAATTGGA	CTCACAGTAC
138901	TGAGTCATCA	CACTGAAAAA	TGCAACCTGA	TACATCAGCA	GAAGGTTTAT
138951	GGGGGAAAAA	TGCAGCCTTC	CAATTAAGCC	AGATATCTGT	ATGACCAAGC
139001	TGCTCCAGAA	TTAGTCACTC	AAAATCTCTC	AGATTAAATT	ATCAACTGTC
139051	ACCAACCATT	CCTATGCTGA	CAAGGCAATT	GCTTGTTCTC	TGTGTTCCCTG
139101	ATACTACAAG	GCTCTTCCTG	ACTTCCTAAA	GATGCATTAT	AAAAATCTTA
139151	TAATTACAT	TTCTCCCTAA	ACTTTGACTC	AATCATGGTA	TGTTGGCAAA
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139351	AGGGAAAGAA	TGACATGCAG	AGGAATAAGT	ATGGACACAC	AGGCTAGCAG
139401	CGACTGTAGA	ACAAGTACTA	ATGGGTGAGA	AGTTGAACAA	GAGTCCCCTA
139451	CAGCAACTTA	ATCTAATAAG	CTAGTGGTCT	ACATCAGCTA	AAAGAGCATA
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139551	TCTGGAGCAG	TGTGTCCAAT	CTGCCGCTGC	CCTGATCCTG	GCTGGGGTGA
139601	TGGGACAGAC	CTTGGCTGCC	ACTGAGACAT	CTGAGACACT	GAGATCTGTC
139651	TCAACTCAGA	TTTACCCAAG	AACAGATCAT	TGCCAACAGA	ACAAAATCTC
139701	AAACTTATGG	CTAGTGATGA	CAGCAGTCAG	TTGTCCCATC	TGTGACCCAC
139751	CAAGGCTGGC	ATGCTGGAAT	GAGCAGGCTT	TGGTGGCTTG	TAGTTACTGG
139801	ACAGACCAC	TGACATGGGC	AGGGGAAAAA	CTGAGCATGG	TGTAAATCAC
139851	TGCCTCAAAG	CCACTTCTCT	GTGCCTGCAC	CATGCTTGAA	AGCTCTTCTA
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139951	GTACCTTCAC	AGGGACAGAG	TTAGAAGGGT	ACAGCCATGG	CTGGAAGGGG
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140401	TGCACTCCTG	AGGGGTGGAC	TGCGTGGGAA	AGGAAAAGAA	AGCAAACAGA
140451	CCTGTGATGA	ACTGTCACAC	AGACTGCAGA	GTGACAGAGG	AGGGCTTGAG
140501	GCAGTGCCTG	TACTGCAGGG	AGTGGCGCTC	CTTCCTCACA	GCAGCGCTAA
140551	CAGCTTGGCA	CCAATATTCA	GTAGTCTGTG	GTGATGCTTT	TTCCAGTTTC
140601	ACCACACAGC	ATTTTCGCTT	TTCTACTTGT	TTTAGCTTTC	CCCCCTCACA
140651	AGATAACACA	TACTTTGCCA	GTCAGTCCCT	AAGACCTTAG	CCTAACAGTT
140701	AGCAAACAGG	ATCTTGCAAA	AGAAGGAAGA	TAACATGACA	CCACCTTCAC
140751	TGGTGTATAA	ATAGTTCAAA	TACTTTCCCT	CACTTTCCCG	TAAATTAGTT
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141101	ATTGCTCTGT	CACCACACCC	CATATAGATC	TGTAGTATAC	CACACATGTG
141151	AAGAAGCACA	GTACATTAGT	GCATTACAGA	GAGACAAAAC	CACACCTATT

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141451	ACCTTGCTCA	AAGCAGGACT	ATCTTCAAAG	CCATATCAGA	TAGCTCCAGA
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142301	GTATGGGAAA	GGGAAAATAA	TGGGGTGCCA	GATGAGTGCA	CCTTCCTGAA
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143201	GCATGTGATC	ATTAGATTTT	AAAAGAAGGT	CCTCAGCACA	ATAACCAGAA
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144651	GTGTTCTCAC	TCAAAGCTTT	AAAGGGAAAT	AAGATACTCA	AAGAAATAAT
144701	CTCTTTTGAA	CTTTAAAAGC	TATTTGAGAC	TTCACGATGA	TACAAACTTA
144751	TCCCACATAA	AAATCTTAGG	ACATAAAATC	CATTACAACC	ATTCCAGCTG
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145151	TCTGGCTTGG	ACAAAAACAC	GAGCAGAATG	CTCTGTTGGC	TGAACCAGAA
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W gene exon L

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W gene exon 1

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150651 TAACCAAGTC TAATGATCAT AGAATCATAG AATGGCCTGG GTTGAAAAGG
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 151651 ATGCAGCCAC TGTGGTAAAA AGTTCTCTCT CTTACTCTTT CCCATCATTC
 151701 TTTTTTCTTT TTGTGAGTAA ATCATTTCCT TGAAGTCTGT CCACAAAACC

151751	CCTGTGGCAG	CAAGTTTTGA	TAAATGGGAA	CTTGGGTCTA	CATTCCACAG
151801	CTACGGTGGG	AAGACTAATT	TTGGGGACTA	CGCCAACAAA	CCATTTATGT
151851	TGCACGAACA	GGAGATGGAT	TGTTTCTCAT	GAGTAATGCT	TGTCTGAACT
151901	GTAAGAATTA	TGGAGCGCTC	TAGGCAGGGA	AAAGAACTG	TTCTAATAGC
151951	TTAGAAATTT	AGATAGCTGT	TCATGCTTCT	GATTTTCTTG	CAGTAACAAG
152001	ATGAATACAA	CACAGGTCCA	GTTTCTTAGT	CCACTAATTC	ACAGCTTCAT
152051	TTCCTTAAGC	TGGTTTGACA	GTTTGAGTCC	ACATTCATAT	AATTCTGTTA
152101	CATAAATATA	AAGAATTTAC	TGCAATTACT	ACAACAAAAA	GCATTTGCAA
152151	AATATTATTA	TTTAGAGGTA	GGTTAAAAAA	GTTAGAGGCA	AACTTACCAT
152201	GTAATTAACT	TTCATAAATC	TTATCAGGAG	TCACACAGCC	AGGTCTTCAT
152251	GTATAGTTTA	GCAATTACAT	TCTGTCTCTC	TCTCTGTATG	TACTTCATTT
152301	TGCAACCTCC	ATTTAAAAGT	CCTTAAACAT	TCTAAACAGT	TCAAGCTTTT
152351	ACTACTTGCA	TCCCAGGGCT	CTTACAGTGT	CTATAGCATA	TCTGAAACTT
152401	TTAGTAATTT	CACATCATTC	TTTTAATATC	TGTCTGAGTT	AGTACACATC
152451	TTGCATTGCA	GTAAAGGCAA	CACCACCTGA	ATAGCAGTAG	TTTACATAGA
152501	GCTGCATGAG	GAAAGAATTT	AGAAATTTTG	AACTGTTTTA	CAGAAAAAAA

W gene exon 2

152551	AAAAATGTAT	AACCCTTATT	TCCTTGTCTC	CAAGACAGAA	ATAGGCAAAT
152601	CAGGTAATAT	CCATGCTGGG	TTTAAAGCAC	TCAACTTGGA	AATCAACCAA
152651	CCCACTAAAA	GTTACTTGCT	TAGAAGCGTC	AACCAGTTAT	ATGGAGAAAA
152701	GTCACTGCCT	TTCAGTAAGG	TAGGTAGGCC	ATTTATTTCAT	GTTATCCTGT
152751	GTGTGTCAGA	CTTTATGATC	TATCTATGAC	AACAAACCAT	AAATTATATG
152801	CTTTCAAATA	TTTTCATTAC	ATCTGCAAAT	TGTGTAATTA	TCTTTAACAT
152851	ACTTCCTGTG	AGGTTCTTCT	TGAGAATTTA	GATATCATGA	CTTTTATAGG
152901	ATGTATATTT	AATTTGTGTG	ATTCACAGTT	GTGGCTACGC	AAAAACATTT
152951	AAATTATGTA	TTTCCAAATA	AAATCAATAC	TATGTTCTTT	TGACAAATGCT
153001	GTGCTTGTAG	CCTACACAAT	TTTTATGCAT	TCTCTCCAAT	CGGCTATAGT
153051	TATTTATTGG	CATTCACACT	GGCAGGCAAC	AAACATAAGA	CAGATGTCTA

W gene exon 3

153101	TCTTGCACTG	CAGGAATACT	TACAGTTAAC	CAAGAAATAC	TACAGTGCAG
153151	AACCACAATC	AGTTGACTTT	GTGGGAGCAG	CAAATGCAAT	CAGAAGAGAG
153201	ATCAATTCCA	CGGTTGAACA	CCAGACTGAA	GGTAAGCTCT	AGCATCTCCT
153251	CTCCCAGTTC	TGAAGGAAGC	AGTTTTAGTC	TTGAACAATT	TCTCTGTGCC
153301	CAAAGGCAGG	TAAACAATTT	AACTCAGAAA	GGAAAATCAG	AACAGTTTTG
153351	CTGAAGTAAT	CATCTGCTGG	CAAGCCCTTT	CTAGAATTAT	CTTTCACCAT
153401	TTGAAAGGGA	GAGGAATGTG	GTTTCCTCTA	TAAATCAAGG	TTGTCATGTA
153451	TTTATGAATA	ATCTCAAGCT	AGAAGTATGC	CAAATCAGCA	CTCTAAATTT
153501	CCTTGTCTTA	TGACTTCAGA	AACTACGCCA	GCATTTACTC	TGAAACAGTA
153551	AAGCTGCACA	AATATGTAAA	CGTTCCTTGT	TTTTCTCTAG	GTAAAAATAAA

W gene exon 4

153601	AAGTCTGCTG	CCTCCTGGAT	CCATAGATTG	ACTCACCAGG	CTAGTCCTGG
153651	TAAATGCGCT	CTATTTCAAA	GGAAACTGGG	CAACAAAGTT	TGATGCTGAA
153701	GATACCAGGC	AAAGGCCTTT	CAGAATAAAT	ACGGTATGGT	AACATACTGC
153751	CTTATATACC	AGACTGCAGG	TTGAAAAAGC	AGTGAAAAAG	ATGGAGGAGA
153801	TAAATTCCTG	TCATTCTTTA	AAGCCACATA	GCACTAAAAT	TAGTATATTT
153851	AAAACATACG	TTATATCCTT	CTTAGCACAT	CTTCAGTACA	AAGACCGCAT
153901	ACATATGCTA	GCACCCAAGG	CACAAATAAA	ATTATCAGAA	GCCAGCTTGA
153951	AACAAACTTC	CATACACCTC	TTAAAGCAGG	AAAAACATAG	ATGTGAATAG
154001	AACTGTATGA	ACTAGTTCTA	TATATTTTCA	TTTTTAACCA	TACAATGAAT
154051	TGGAGTGGAA	CAGAGCTTCC	AGTAAATACG	TGTCATCCTA	GCTGGCTAAG
154101	ATAACCTTCC	CAGCCTCCCA	GTGCATTCCC	AGAAGAGAGG	GGCCCTCTGT
154151	AGATCCTACA	GCTTCTCTTA	GAGCCACAGG	GATGTACCTC	CATGCTACTT
154201	CAATGTAGTC	TTTACTGTTC	TGAGTATAAA	TAGCAAGCTT	TTCATTTGAT

W gene exon 5

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154251 TTGTTGCAGC ATACAACATA ACCAGTGCCA ATAATGCACC TGAGTGATAA
154301 ATTTAATTGG ACCTACATAG AATCAGCCCA GATTGATGTT CTTGAGCTTC
154351 CATATGTCAA TAATGAACTC AGTATGTTCA TCCTGCTACC ACGGGATATC
154401 ACTGGCCTAC AAAAGGTAAA GGGTAACTTT AAACCTCAAAT TGCCTGAGAA
154451 ACAACGTTTT CATGCATATC CATGGCAAAG CAATCCTGTT TCTAGGAAGG
154501 AAGGTATCGA TAAGGCTAAA GGAAAAACAA ACCCCAAACT TGCCCAAATG
154551 TTATGAAGCT GAACCTTTTC AATGTTTTGT TTGGTTTTCT TTTTAACTCC
154601 TGGCACGTGG CACCTCGTGC TTCCTCATGT TGATCAGTGC TGGAAATAAG
154651 TAGCCCGAAT CCAACAAGAT AGATCTAATT CCAGCTGAAG AACAACGAGG
154701 ACAGAAAGAT AGTTCCTGCTG ACTGTCTGTA CTGATTCCGA CAGATATTAT
154751 TACATTAATA AGAAAAGCAC AAACCTGGACA CCCTCCACTA CTTTCTGTGA
154801 TGTTTAGAGC TAATATACAT GTACACTGCC ACCTTCTGTA AACACACTGA
154851 ACCTGACTTC AGATAGTGAA CTACTGTGAA ATTCTCATTT ACATTAGTGG
154901 GTGTTTTGTA GAAAAAAGTTA TTTTCACTAA ATTCTAAGAC
154951 ACACAGAAAA CAGAAATGTG AGCAGCAAGT CAAATAGACT ATTGTTACTT
155001 GACAGTGACG TTGTTTTACA AATATTTAAT CCCTCTATAT TCCCTGATGA
155051 TTAATAAGAA CAGTTCAAAT ACTGCACTAA CATGCTGTAG AGCAAAACAC
155101 TCCTTCCTAG TAGAAAATAT TTCAGAGTTG GCATTTCACT AATGGTTTTCT
155151 GTACTTGAAG AGTACAATTT TTTTGTCTAC AAAAAAAGC TACAGAATTT
155201 TTGTAGTTTG AAAAGTTCTT AAATAAGAAT ATAAAAGAAA TAACCCCTAG
155251 GGAACAGTTT TTTGAACACT CTGTAATTTT CTGGTTCTCT TTTCAATTAA

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W gene exon 6

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155301 CTGCAGCTAA TAAATGAATT GACTTTCGAA AAATTGTCTG CATGGACCAG
155351 TCCAGAATTA ATGGAGAAAA TGAAAATGGA AGTGTATCTG CCCAGGTTCA
155401 CAGTAGAAGA GAAATACGAC CTGAAATCTA CTTTGAGCAA GATGGGAATA
155451 GAAGACGCTT TCACTGAAGG TCAAGCTGAT TTCAGGGGAA TGTCAAGAGAA
155501 CGCTGACCTG TTTTGTCTAC AGGTTTTTCA CAAGTGTTAT GTGGAAGTCA
155551 ATGAAGAAGG CACAGAGGCA GCGGCTGCCA GTTCAGCATC TCTAGCGTCA
155601 CGAACCCCTG GTGCTACAGT TATTTTTGTA GCAGATCACC CTTTCTCTCT
155651 CATTATCAGA CACAACAAGA CCAAGTGCAT CCTTTTCTTG GGAAGGTTCT
155701 GCTCCCCCTA GAAAATCAGC TATTAATAAA CAAGCCCTTA CAACAACGAT
155751 GAACACAATG TATGCCATGA AGAACACCTT GACAGACTTT GCACTTTTACC
155801 ATTTTCCTGT ACTATTGACA ATCTCTTTTA GAAGAGAGCT CAAATTAAAA
155851 ACATGAATTC AAACCTCTGA TTCCTTTTCC TCTGCAAAGA ATCCTAGCAT
155901 CGTATACTGC ACTGTAGAAC ACTGAACTGC ACGCTGAACA ACATGGATGT
155951 GTCTTTTCAG TGCTGTCCAA ACCAGAACTG CTACAATGCA GAACAGACTA
156001 GGCTGATCTA AACAGTACCT TCTGACCCAG TTCCTTTTCA ACGTAAGAAG
156051 AAAAGAAACA GGAGAACTC ATTCCTGCAT ACAGCTGTTT CATCTCTTCA
156101 AAGCCAGCTG TCCCAGGCCA GCTCAATCAC AGCCTTGTC A GTTTTAAATC
156151 AGCTTACAAA CATAGCATGG CTGGTAATGA AACAAAAGTG CAAAATCCTC
156201 TGTGTTGCTG ATACTGGTGG TTTGCTCTTG CACACAAAGG AGCTAACACA
156251 TGTACTTTCT AATCTCTGTC CCTCATAAAC TAGCAAATAC CAAACAATAC
156301 AGAACAGAG TAAAGTAAAA TACATACCTT GAAATGCTTT CTTTGTGCAT
156351 AACCTTTAAT TCATTCAACG CTGTTGCAGC CCAGCACTGC ACTGCTTTAC
156401 TTGCCTTTTA CTTTGCCACA TATTTTGCTG CTTGGAGCAA GTGGGAGAAT
156451 AAAGTCTGTT ATGTTAACTC CCTAAGTGCT GTCTAAAAGA TTACATGCAA
156501 ATTCTCCTCT ACATATTCAC TGCTTTTACA GCTTTTACTC CTAAAGGGGA
156551 GGAATTCCTA ATCAGTCATG CACATCTAAG AACACAGGTG ATGCTCCTGT
156601 TTCTCTGAAT TCAGAACAGG GAGGAAAGGA CTGGGTCTCT TAACAGCACT

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MAR-like element

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156651 TGCACACACA CTGACAGCAT CTCACTAGAA ACATCCCTTC CCAGAAAGGT
156701 AGGATACCTT TTTCTTGGCA GAGGGAAGAG CGCTGACTGA TAGTGAGTCC
156751 TTTCTGTATT ATTCCACGTG ACCAACTGTG GCCAGGCTCC CTTTGGGCTC

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156801	TGCTTCCCAA	ATGGGAAGGA	ACGTAGGGAA	GGGCCAATGG	CAACCAAATT
156851	AGAGGGTGAG	TCTTGCATTG	AGGAACACCA	TTTTCCCACC	GTAAGTAGCA
156901	CAGCACTGGG	GCAGACTGCC	CAGAAAAAAA	TTGAGGATTT	CCCATTCTTC
156951	AAAGGGCTGT	AGCTGACCTA	ATTTACCACT	GGGTCTGCTC	CAGGCATGAG
157001	CTGGACTATG	GAAATACCCA	TAAACCAGCT	TGTGTCTTGT	TTCTATCAAC
157051	ATCCATTCTA	CCTTACCACC	TCAATTTCTC	ATCCTCTCTG	GCACCCTTAC

MAR-like element

157101	AGCTTGACAA	GCAGGGGCAG	TTAGCTTGCT	TGCTTGCTCT	CAAGCATATT
157151	TCTTTGAGAC	TTGGAATCTC	CCTAGCTTGT	ACTTTCCCAT	CAATCAATCA
157201	CTCAGTGGAC	CTTCTCTCTA	CCCTGATTTT	TTGACAACTC	CTCTCATTGT
157251	ACTAAAGTCA	CCACTTGTTT	AGTTTCTGGC	ATTTCTTCAT	TGCCTTGCAT
157301	AATACTGATT	TCTATAACTT	TTCAGAAGAC	TTGACCCGCT	CTGTTCTTGT
157351	AATCAAGCTT	ACAGCAAAAT	GCTTGGCACA	CCATACAGTT	TCCTTCCCTT
157401	CCTCCTCCTT	CCTTCCCTGT	CCCCTAGACT	CTTACAGATA	TGCCCACTAC
157451	CTTCCCCTTC	TCTTACCAGT	AAAGAGCTGC	TCTGCTGTCT	TCTGGGACAG
157501	CAGAGTGACA	ACTATTGTGA	CATATTTATC	CCTGTTGTAT	TGTTTTCACT
157551	CCCTCCTTGC	TCAAGCTCTG	CCAGTGGGGC	CGTTTCAGTT	CTTGCCCACC
157601	TCCATGGCAT	GCAAGTACTG	CACACTAACT	CAGTACTCTG	CAGTGCTTCT
157651	CTGAAGCGTT	TCCCAGCCAT	GGATGCAATG	AGATTCTTTC	ACCAACACAA
157701	GAAGCAAGGT	ATTCAACCTT	ACACCTTCAA	TGGCTTTGCC	TCTGCCTATG
157751	CTCCTAATGA	TCTTCACTCT	GAAGCTTGAC	TCTCAGAGTC	TCATTTCAGTC
157801	AGTAAGCTCC	TGACATTTTA	TGCTGATGCA	TCTTACTCAT	AGAATCATAG
157851	AATGGCTTGG	GTTAGAAGAT	CATCTAGTCC	CAAGCCTCCT	GCCAACCACT
157901	AAATCAGGCA	CTACATCAGG	CTGCCCAGGG	CCCCATCCAG	CCTGGCCTCG
157951	AACATCTCCA	GATCTCCAGG	GATGGGGCAT	CCACAGCTTC	TCTGGGGAGA
158001	GGTTCCAGCA	CTTCACCACC	TTCTCAGTGA	AAACTTTCCT	CAACATCTAA
158051	TCTAACTCTA	CCTTATTTTA	GTTTTAAAC	ATTCCCCCTT	AACCTATCAC
158101	TACCTTCCCA	TGTGAAAAGT	TGATTTCCCT	CCTTACTTAC	AAGCTTCTTC
158151	TAGGTACTTG	AAGGCTGCTA	TCAGGTCTCC	CCTGATCCTT	CACTTCTTCA
158201	GACTGAGCAA	GCCAAGCTTC	CTCAGCCGAT	CTTCAGAGAA	GAGGTCTTCC
158251	AGTTCTCTAA	CCATCTTCAT	GGCCCTGCTC	TGGACTTGTT	CCAAAGGTCC
158301	ACATCTTTCC	TGTGCTGGGT	GCCTCAGACC	TGGACACAGT	ACTCCAGATG
158351	GGGCCTCATT	TGGGCAGAAC	AGAGGGGGGA	CAATCACCTC	CCTCTCCCTG
158401	CTGGTCACCC	TTCTTTTGAT	GCAGCCCGGG	ATATTGTTGG	CCTTTCAGGC
158451	TTCAAGAGCA	CGCTGCTGGC	TCATGTTAAG	TTCTTCATCT	GCCAGGATCC
158501	CTAAGTCCTT	CTCAGTAGGG	CTACTCTCGA	TGAATTCTTA	TCCTAGTATG
158551	GATACATATC	TGGGATTGTC	TCAACACAAG	TGCAACACCT	AGCACTTGGC
158601	CTTGTTGAAC	CTCATTATGT	TCACATGGAC	CCAATCCTCA	AGCCTGCCCA
158651	GGTCGCTATT	AAAAAAAACA	AGTGTCATGG	CTTCACAAGG	CTGGAAAGTT
158701	GGATCAGGCC	TACAATACCT	GCTAACATCC	AGAAACCAAA	ACCATGCATT
158751	CTGGCTCTGT	AATCATTTTA	CTAGATTTAT	TTAGTTTAAA	CAACAGGCCA
158801	GTTGTCTTCA	CAACAACAGA	AGATCACTGA	AATGAGTGAG	TGACTTGTTT
158851	TACTGTCTCT	TCAGTAGACA	ATTGTGGTGT	AACAGTTAAA	ATGAGATTAT
158901	GATCCACATT	GTTCCTTTGA	AACGCCTAAA	ACTAAAACAT	AACATGATGA
158951	ACAAGGAAGA	CAAAACTGTA	TGAGATCTTT	TTGTGATTCA	TTAGAAGCTT
159001	TGAGTAGGCG	GGAACAGTGT	TGACATAGGA	GAGAAGGAAA	AGGAAGTGCA
159051	AACTGTACTA	TATTTCTAAA	TTTATTCACT	GCATAACACA	CAGGCACAGA

MENT exon L

159101	ACCTGACTGA	GGACAAGACT	CAGGTCTTCT	CTCTCACGGG	ACCACAGGTA
159151	AACATTTAAA	CCAATTTAAA	TAACCTTTTT	GATGTTTTTA	AATGGTTATC
159201	TATAGTCTGT	ATGACAATGT	AAGTATATTA	AAACACACCA	GAGTTATTCT
159251	GTAGTCGGGA	GCATAATTGA	TCACAAGAAG	GAAAATCTTG	TCAGGACAGT
159301	AGCTGTCTTA	CTAATTTAAA	TGTTTCAGTTT	GATAAAGGAG	TCTCATACTT
159351	CAGGTAAAGC	AAAGGCCATT	TTCATTCTGC	CTTGTATGAG	GTCAGGCCAG

159401	GGACTCAGAG	GAGCAGAGTA	AAACAGACAG	ATTTCTATCC	TGATGCTCAT
159451	TTGGTCAGGT	TCTCCAAGGA	GAGGAAGTCA	CTCTGTTGGT	ACAGATTTGG
159501	TGTAGACTGG	ATAACGACTG	CCAGAAAAAC	TGAAGTGGTT	TGGTAACCAA
159551	AATCTTGATA	AATATCTGTG	GACTTCAGAG	ATTGTCCTGC	AATTTCTGCA
159601	GTGCCATTCA	ATAAATATAA	ATCTTTCTTT	ACATAATAAT	AACTACTACA
159651	ACAACAACAT	TTTCCAGTCC	CTCTATCAGA	AAACAACATC	AAGAAGGCAC
159701	TACTGAACAG	GTAAGTTAAA	GTTTGGAATG	CTCATAGCTT	ATATGCATAG
159751	GTATTTGCCA	GTTTCTGGGG	AAAATAAAAT	TGCAAGAATA	TAAAGAAGAG
159801	ATTGTAGTTA	GACTTCGTGA	ATAAAATGGT	AACACTCTAA	AAGCAAATAA
159851	CAACTTTGCC	ATACATTATA	TTATCTGAAA	TGGGTGACTA	GCCAGAAAAA
159901	TTCCATAAGC	CTAAGAGTTA	CACCTAAATA	CATTCTCAGT	ATCAGCTCCT
159951	AATTCTATCT	AGATCCAAAA	TGAGGTAGTG	AAAAGTTCAA	ATGTCCCATG
160001	TACAAAAAAC	TACTTAAACT	TCCCTAGGAA	CATTACTTTG	ATAATGAGTT
160051	AAGAAAGAAA	ATGAACAAAA	TATGCAGCTT	ACAAATCCAC	ACACTTTTGA
160101	AAACCAAAGG	CAGAAAGAAA	CACAAATAAA	AGGGCAGATC	TATAAAAGAG
160151	GACATATCTA	TAATCATAGA	GAAATATGAG	ATGGATAACA	AAAACCTAAA
160201	AGAAACTGCT	GCTCCCAGCA	GGTGGCACAT	GGTATGTGTA	GAACATATAA
160251	CGTACAACCTA	GGCTATTAGT	TTCAAAAAGGT	ACCTACGTGC	TCCGTTGCAA
160301	ATGTAACATG	TAAATGTAAA	ATGTAAATGC	AAATGTAAC	AATATGCACT
160351	ACATACATCA	TTTTAGACAC	TCAAATACTA	CAATTCTGTC	TGTTGCCTCT

MENT exon 1

160401	TTCCAGGCTG	TAGCAATGGA	ACAGGTCTCG	GCATCAATTG	GCAACTTTAC
160451	AGTTGATCTT	TTCAACAAGC	TGAATGAGAC	CAACAGGGAC	AAAAACATTT
160501	TCTTTTCCCC	TTGGAGCATA	TCATCTGCTC	TCGCCCTGAC	ATATCTGGCT
160551	GCAAAAGGCA	GTACAGCAAG	AGAGATGGCA	GAGGTAAGTA	GCTCTGTGAA
160601	GCTATGATGC	TCAACACTGC	CCAGCACTGC	TGTTGAGATG	CCCTGCTCCG
160651	TTGTTCATAGG	GAAAAACTAC	ATTTGAGTTT	GCACAAATGC	ATTGCTATTG
160701	CTGAGTGCAA	TGGCTGTGGA	AGGGATTTC	GCCTTGAGT	GCACAGACAG
160751	AAGCACTGTG	ATGATGCTCA	CAGGCAGGAG	CAATACTATT	CCTTGTTACT
160801	GTAGGGGATT	TACATATACT	AGAGCTCCAG	TGTCCCTCTG	ATTAGATCAG
160851	AAGATAGCAC	AGTGTGTTAT	CATAAGGATC	CAAACAAGAC	AACCATTTTA
160901	TCTCTTTTAG	GTTTTAGGTC	ATGCAAACTC	TTTCATGTCA	GTTTCTTACC

MENT exon 2

160951	TTTGGAACC	CTGTTTGCAG	GTTCTTCATT	TCACTGAAGC	TGTGCGAGCT
161001	GAAAGCTCTT	CTGTGGCCAG	ACCTTCTCGG	GGGAGACCAA	AAAGAAGAAG
161051	AATGGTATCT	ATTAAACATG	AAATCCCAAG	ATAAGAGTTC	AAATGTCTGG
161101	ATATAGTTTT	TAAGAGTCCA	CCATTTCTTG	TTTGCAGCTC	TCTTTATGTT
161151	TAAAGTATAA	AACCCAATAT	ACTTCGCATC	ACATCCAATT	TCAGTTCCCT
161201	TCACTCATTC	AGACTCAAAA	GTATAGAAGC	ACAAGTCACT	GGTATAATCT
161251	GAAAGGATTG	CAATATGGTA	AATCAGTTAA	TCAAATCATA	AAAGGAGCCC
161301	TGCAAACTGC	AGTGGTGGTG	AATTTGGAAA	GATAAAAAGT	AAGAGAGAGG
161351	AACAGAAATT	CTTCCCCCAC	ATCTACCCCT	TAGCGTTTCA	AAAACCTTCAT
161401	GCCAAAAATG	CAACTGGTAA	ATGTACAGTT	TCTCTTTCCA	AGGACCCTGA

MENT exon 3

161451	GCATGAGCAA	GCTGAAAACA	TCCACTCTGG	ATTCAAAGAG	CTCCTGACAG
161501	CCTTCAACAA	ACCCAGAAAC	AACTACTCGC	TGAGAAGTGC	CAACCGTATC
161551	TATGTGGA	AAACCTACGC	ATTGCTGCCT	GTAAGTTGAA	TGGTTTTATG
161601	TCAAAGAAGA	AAAAGAAAAA	AAAAGAAAAA	AAAAGAAAAA	AAAAAAGAA
161651	AAAAAGTTT	TGCATTGTAT	TCACTTACCA	TTAATAGAAC	AGATCTGAAG
161701	CTGTCCATAA	ATGCTGCAAA	TGATGAGTCT	TGGCTTCCAG	TGATAAACTT
161751	CATTGGAAAA	TACAATTTGG	TCTTCTCCCA	GTATATAAGA	ATGCACCTGG
161801	CTGTAATGCA	GGACTCCTTT	TCATGTAATA	CAGCTTTATC	ACTAGGAACC
161851	TCAGTACATA	CAATTGAAAA	TGAGATATTA	AAATACACAT	ATCCAGGGGA
161901	TTTGCACAGT	CTTCCTTCCT	TCTCCAAATA	AAAATGGGAA	CGAGAGAATA

161951 AGAGTATTTT CTTTGGTTAT TTCCTAACCA TTAACCTACT GCTCAATAGA
 162001 GAGCAAAATG CTAGATCCTG CAATTGCCTG TGTGCAAAAA GTTAACAAGA
 162051 AGTCCAGTAG CTAACAAATT ACTTTTGGGA CTATAAAAAAT ACTGTACAAT
 162101 ACAGAATGTT TCCTTCTTTC GTTCTTTTGG TATGCCATTT TCCAGACATA

MENT exon 4

162151 TCTACAGCTC AGTAAGAAAT ACTATAAGGC AGAGCCACAG AAGGTTAACT
 162201 TTAAGACAGC ACCGGAACAA TCCAGAAAGG AAATCAACAC CTGGGTGGAA
 162251 AAACAAACCG AGAGTAAGTT GAGCTCAACT CCAACATCCT TCCTCTTCCC
 162301 ACTGTTCCCT TCGGGACCCT GTTCCCCTC CTGTGACTGT GGCATCCAGG
 162351 TCATGCCCTC TGGTGTGGGC AGTAGATGGC TGTCTGCTTC CAGCTGCTTG
 162401 CCTTGAGACT GTGGCGTTTT TTCAGGCAGG AGCCAATTGC TGTCAGCTAG
 162451 CCAGGAGAAC TGGGCAACAA ACAGCAAACA GACTAACTGG TTTATGTCAG
 162501 GGAAGTAATC CAGGGAGTAG GGCCTGAGG CTTGCACTTT TCTACTAAGG
 162551 AGTTGAACTG AGTGGATAAA GAATCAACAC ATTCCCTCAC TGTGTTACAC

MENT exon 5

162601 TGGAGTAAAG CCTGACTTTT CTGATTTCAA AAGGTAAAAT AAAGAATTTG
 162651 CTGAGTTTCG ATGATGTGAA AGCCACCACT AGGTTGATCT TGGTCAATGC
 162701 CATTTACTTC AAGGCAGAAT GGGAAAGTGAA ATTTCAAGCA GAAAAACAT
 162751 CTATACAACC CTTCCGACTG AGCAAGGTAA GCTCCTCTGG TGTCCTCCTT
 162801 AAAACAAGCA GACTGGAGAC TGCACCCACT ACCATCTTTT ATTTTCATCCA
 162851 TCCTTTAGGC ATTCCTTGGT AAACAGACTC TCTGAAAAGT TGTTTACAGC
 162901 AAAACATGTC AGTTGTCAGC TCACCAACAT TTATGGAACA TTAAGATGCT
 162951 GCTCAGGCAA AGGATAACTA GATCCAGATG GAACACAGTT TCCAAAAATG
 163001 CTAGGGTCAA TTAAAGCCTT TTTGCAAGAC TGAGGTATAA GAGCTACATT
 163051 GTAAAAATCA GATATTAAGA GTCCATCCTT CCTGCACAGG AACTACATGC
 163101 TATGCTATGG ACGAGTGCAG TACCCGCGCC TCTGTGCTGC ACAATCCGGC
 163151 TGTGAATACA GCTGCTAAAG TATGGATGCA GCAGCACAGC TCCACTGGAT
 163201 GGGTGCATGG CCGAGTGAGA CTAGAAGTAA TGTTGCCAGA GAGGAGATCA
 163251 CAAAAAGGCT GCACAACATT TATCCTCTCA CACCATAGCT GTTTCATTGC
 163301 TGTAATGTTG GGTGCCTGTA TGCCATGAAT GCTCCATCCC CCTAATTCTT
 163351 GAAGATATTT CTGACTCCCT TCCTCTCTCC TCTGTGGGTT GATGTGCATG
 163401 TTCTGGGGAA AAGAGAACAT CAGTTAGCTC AGTCCCAGC AAAATACTCT
 163451 GGGAAAAGAG CCAAGATCAG CAATATTGTC CAGTCAAGAA AAGCCTTGGA
 163501 AAAAGAATGT CAAATCTCTG TTACAAAAGC TGCTTATGAA AGTTTCCTCT
 163551 TTACAAGGAA TTCCTTTTTT CAAGGAATAA TTTTAACCGA TAAATAAATA

MENT exon 6

163601 CCTTACAGAA CAAGTCCAAG CCCGTGAAGA TGATGTATAT GAGAGATACA
 163651 TTTCCAGTTC TTATCATGGA AAAAATGAAC TTCAAATGA TTGAGCTTCC

MAR

163701 ATACGTGAAA CGTGAACCTCA GTATGTTTCAT CCTACTTCCT GACGACATCA
 163751 AAGATGGTAC TACGGGTCTT GAGCAGGTAA AAAGTTCTGC TACATCCATT
 163801 CTGTATCGCC ACTCAGTCAT CAGAACAAAA AGGACAGGCT GATGACCATA
 163851 CGGCCCTTTC TTTCTTTGGC AGTTCATTCTG GCAGAAGTAG CGCACAAAAA
 163901 CTTGACGAT TATGTCTCAC ATTTGCTTTG CAGCCTGTTC TCTGGTCATC
 163951 AGTAAAAGCA ATTTATATTT CATATTTTCA GCTGAATGTT AAATACGCCA
 164001 TTTAAAAATC TGTTTAAATC ATTAAAAAAA AAAAGACAAT CATAATTAAT
 164051 TGGTTTATCC TTGCAATTAT CAAATTCCTC TCATTTCTTA AACAAACAGCT

MENT exon 7

164101 GGAAAGAGAA CTCACCTACG AGAGGCTGTC AGAATGGGCT GATTCAAAGA
 164151 TGATGACAGA AACTCTTGTC GATCTGCACC TGCCTAAGTT CTCACTGGAG
 164201 GACAGAATTG ACCTCCGTGA TACTCTGAGA AACATGGGAA TGACAACTGC
 164251 CTTCAACAAC AATGCTGATT TCAGGGGAT GACTGATAAG AAGGATTTGG
 164301 CTATTTCCAA AGTCATTAC CAGTCTTTTG TTGCAGTTGA TGAGAAAGGC
 164351 ACTGAGGCAG CTGCTGCTAC AGCTGTAATT ATATCATTCA CAACTTCAGT

164401	TATCAATCAT	GTTCTGAAAT	TTAAGGTTGA	TCACCCTTTC	CACTTCTTCA
164451	TCAGACATAA	CAAATCCAAA	ACAATCCTGT	TTTTTGGCAG	ATTCTGCTGC
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164551	TCAAAGGAAA	AAATGTGAAC	TGTAGTATTA	AAAGCTCAGC	CTTCAATCAT
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164651	CCCAGACACC	ACCACGCGCC	TCGAAGACTG	TCTCTCTACT	GCTCCTTTCC
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165151	GACTCACGTA	GCTCTTTTAC	AGCATCCTGT	ATAATGGGTG	GCTGACACAT
165201	ATTTCCATTC	TTGTTATTTT	AAACCAACCA	TCACATCACC	GCTAACGACA
165251	AAGTGCTGAG	GCACTCTAAT	AAACCAGGGT	CTTACTCCCA	CTAGATTTCA
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165351	GACACACCAA	TTCAAATCAA	AGCCTGTGAT	AACAGAGTTA	AGGCATTTGC
165401	CCAGTCTTGT	TCAACAGCTT	CACCAATAGT	CTAGATAAAG	GGATAGAGTG
165451	AATCCTCAAC	AAGTTTGCTG	ACAATATGAA	GCTGGGAGGA	GTGGTTGATA
165501	CACCAGAAGG	CTGTGCTGCC	ACTCACTGAG	ACCCAGACAG	GTTGTAGAGT
165551	TGGGTGGATA	GAAACCCAAT	GAGCTTCTAC	AAGAACAAGC	ATAGGGTGCT
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165701	CAGATTGGCC	ATGAGCCAAC	AGTGTGCCCC	TGTGGCCCAG	GTGGCCAATG
165751	GTATCCTGGG	GTGAATTAAT	AAGAGCGTGG	CCAGCAAGTT	GAGAGAGGTG
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165851	CCAGTTCTGG	GCTCCTCAGT	TAAAGGAAGA	CAGGGAACCTG	CTGAGGAGAG
165901	TCCAGTGGAG	GACTGCCAAG	TTGATTAGGG	ACCTGGAGCA	TCTCCCATAC
165951	AAAGAAAGGT	TGAGAGACCG	CAGACTATTC	AGCTCAGAGA	AGAAAAGACT
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166051	ATGAATGGAC	CCAGACTGTT	TTCAGTGGTG	TGCAGCACAA	GGGGGCAATG
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166151	TTTATTTTGA	GAGTGACAGA	GCACTGGAAC	AGGCAGCCCA	GAGAGGTTGT
166201	GGAGTCTCCT	TCTCTAGAGA	TATTTAAGAT	CTGCCTGGAT	GCTTTCCTGT
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166351	CTGTAAGCAT	TCAGTTTCCC	ATTGTTGACC	ACTGCTTATT	GCACTATCAG
166401	CGCCCCATGG	ACCTACTGAG	AAAGCTCATT	TTCTTCTGCA	TTATGATACA
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166501	AACATCCAAT	GCTGTATCAG	CAACATCCAT	TTCTTCCATT	AGCTTAGGAG
166551	GGCAGTAGCT	GTGCTATCTT	ATGCCTATAA	GGAATTGGAT	AAAGTTTGT
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166701	AAAATTCCAC	CTGTAACCTAC	AGCTCACTCT	ATGCCTCAAC	AAAAGGTAGA
166751	CTATTTGGAA	ATATATCTCC	ACCCAACAAA	GTATATATAC	GCCGCCCTCT
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166851	CCAGCTCAGG	GTTTCAGCTGT	CTGTCACTGA	GGACCCACTT	TGGTTCAGCC
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167001	TAAAAACACA	AAGAAAGTTAC	TGTCAGGATG	GAATAGTCAG	CATAGCAAGG
167051	ACTCGAGAGG	ATTGCACGTA	GGGGTGTCAA	ACTTCAATTA	AAAAAAAGTT

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167201	GGTGAAGGTG	AACCTCTATCT	CAGCATCCTG	GTCATTAATG	AATGTGTAAA
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167451	TTCTCCCCTC	ATCAAAGAGA	CTAGCTGCCT	CATGGTAGAA	GGCAATCAGG
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167751	GTACCAATAT	TTTTTAAGGT	TTTTATTTC	CCATCAGTAA	CTGGAACAAG
167801	AAAATCCCTT	TTAAAATATT	ATTTATACTC	CAGTCACTTA	CAGGTCTATT
167851	GCAACCACATG	TGATACTTAT	TCTCCTTTCC	TCTCTTGTAG	GACAAGGCTG
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167951	TGATTTTAAA	TTGTGCTGCT	TGTTAACCAG	GCATAAATGC	CTAGATGTAC
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168251	CTTCTCCACG	TGGCACAGCA	AAACCAAGAG	CACCTTTTCT	TTCCCATGTT
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168551	TTCGATAGAT	TTCTGAAGAA	AGAAAATGAG	ATTGATATTC	CAGGTAGGAA
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168751	ATACAAATGC	TTTTCACAT	AGGTTGACTG	CATGCTGATA	ACTGGTTTAC
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176701 TCAGAATTTG TTTTACGGGT TATCTAGTTT CAAATGAATT ACATTTTCTT
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176801 ACTATTTTTG TGCTTAAATT TAACTATATA AGCATACATT TTCCAATTCT

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Z1 gene exon 3

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176851 ATCCTTCAGA AATTTTTTACA ACTGATCACA AGGTACTACC AAGCAAAGCC
176901 ACAAGCTGTA AACTTTAAGA CAGATGCGGA ACAAGCCAGA GCACAGATCA
176951 ATTCCTGGGT TGAAAACGAA ACTGAGAGTA AGTATCGCTC TGATGGCTTT
177001 TTCTTTTCTC ACTTCAAAT CATTTGCATT TCCACTTGAA TTGCTCTTGC
177051 AGTAAGGGAT CCATAAAGGA TGGAAACTGT GGGGAAATGA TGAACAAATT
177101 GCAGTTAAAT GTCTTGAAGA AAGCCAACCA CCAAACTAA CTGCTGCCCC
177151 TTGCAAAGTT TTTCCCTTGA TTTTTCATGT CATAGTCTCT TCTGAAGTAT
177201 TTCTGTTTAT AAGGAAGCAG AGTGGATACT ACATGGCTCC ACTCTGATCA
177251 GTGAAGGTTT TACTTCTGCA AGCTTCAACT GGTTGCAGCC AACTCCAGAG
177301 AACTTCCACG CTTTACACAC TTCTTAACAT CTTTTACTAC TAAAACTGAA
177351 ATAAATATGG TTTAAAAAAC AGTGATGCTT CAAAAGCCAT TTATGTATGT
177401 ACGCTGTGAA AAATGCACAG GGAAAAAAA TCTCTGAGTG TAAACACTTT
177451 TGTTAGATAG CTAGGCATAG AGAAAGCACA TCTGAAATTG GTGAGTTGTG
177501 CATTGCGAGC GAATTAACAG TCCTATCTAT TTGATTTTAA AGGGAAGATC

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Z1 gene exon 4

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177551 CAGAATCTGC TACCTGCAGG ATCTCTTGAT TCTGACACTG TATTGGTCTT
177601 AGTAAATGCT ATTTACTTCA AAGGAAACTG GGAAAAGAGG TTTCTGGAAA
177651 AAGACACATC CGAGATGCCC TTCAGATTAA GCAAGGTAAA TTCCTTCAAA

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177701 ATGTCTATTA TGGCAGAGCA AGAATCCTCT AAATATTTCA CCTGCATTTT
177751 ACATCCCAGT ACAACACTAC TTACAGCAGT AGCAGATGGT ATAAACTCTG
177801 AGAACAGCAA CAGTGAAAAT AAATCAGCAG TCTCATTTAT ACAGATGCAT
177851 GAGATTAGGA TTTTCAGTTA AGTTAGTAGC TTCTTGGCAC CAAAACAGTT
177901 GAAAACACCA TGGTTAAGCA GCTTAAGGAC AAGAGAAAGT TTCTCTAAGT
177951 ACTGAGATAT CATTTTCAGA AGGAATTGAG CTAATTCTGA GAGCAGTACT
178001 TCGACACCTA GGTCTCTTTT CATGCTTTTC AGACAGAGGC TGTATAATGT
178051 GAGCTCAAGT AGCCTAAGTG TTCTTTCCTA ATGCCCTGGC CATTGCGTAA
178101 AACCTCACGT GGAATTCTCA AGAGGGTTTG TCATTTTAGC CAGATGCGTA
178151 TGGATGATGT GTTCAGCATG CATTGTGGGC ACGACTGAGC TTACAGTATC
178201 TCAGTGATTG TGCATGGACA ATTTACAGTA GCTGACAGCA TGCATACTTT
178251 CGGCTTGTGT CAAAGGTGAG CAAAAAGAAT TTTCATTCAG AACACGTTGT
178301 TTGACATGAG ATTACGAGTG CAAACACCTT TTGTATGTCT GGTGATGTGA
178351 AGCAATTGTG TCGATACTGT GGCTGTGTTA TCTGAAACCT ACTACATTGC
178401 ATGCGCAGTT TTAGGACCTG TAATAGTACA CGGTGCACAG AAAGGGTTTC
178451 ATTCACAGAT TGGCTGATAG CAAAGCCTGC AAACAGATAA GCTTTTGCAC
178501 TTGTGTAACA ATGGAAAAGA GAGAGTGGAT ATATCAGTGA AGGTCTCTGA
178551 GCATAATACA GCGTAAGAGT TCAGATGATT ACTGTCTAAC GCGATTTTCA
178601 TTGGTAATCC AAACCTCTAC AGTTTGGGAA AGAGAAAAAA CAAGCAGAGG
178651 TCACAGCAAA TATGGTCCAT AGGTAAATTC AATCAATCAG TGCTGTCCGG
178701 AAGCATACAA AAGAGTTGAT GACATCCAGA GAATGAAAGT CAGCATTTTT
178751 TTCCCTCCC AATCAACACA TTCACTCAAG AAATGTAAAG TTTTGGGGAA
178801 AACTTGAAAC ATACAAAGTA GTTTCTTGTT TACCAAAGCT AACTCTTTCA
178851 AAAGAGTGAG AAATACATTG CATGTAATTA TGTATCAGG TGGTGTCTGT
178901 GCTTTTTTTT TCTTTTTTTT CTTTTCTTCT GAAGATCCCT TTGACTTTGA
178951 AACAGGAGAA ATGGCACTGG GAAAGAATAA TGCCAAGTCT TATACTTGTT
179001 TACAATTTT TTTTGCCTTC AGTTCAACAA AGCAAGTAAT CTTTACCATT
179051 CACCTTAAGG AATAAGTACA ACTAATCTTT TTCTTTTCTG TTCTTTTTTA

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Z1 gene exon 5

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179101 ACATCTGAAT CATTTTCACAG ACCAAGACTA AAGCAGTACA GATGATGTTT
179151 CTCAGAGATA CATTTTTGAT GCTCCATGAA CAAACAATGA AATTCAAAT
179201 TATTGAGCTG CCGTACGCGG AAAATGAACT CAGCATGTTT GTACTCCTAC
179251 CAGATGACAT CAGTGATAAC ACTACTGGTC TGGAGCTGGT AAAACTGACA
179301 TACTGCATCA CACGCACTAC AAAGCACTAA CAGAAATAGA TGAAAACAGT
179351 GAGGAAGAAT GAACTTCAA TGACACAATG ACTGCTCAGC CTAGGTTTCA
179401 GGGCATCTAT TAATGATGCA AAAATACAAA TCTACCTGAG GATACACCTA
179451 AAAAAGTATG CCCACTCTAC TCTCTTAGCC TATTCGGTGC CTCCTTTTCT
179501 ACCTCCAGAA TAGCAGAATA ACGAAAGCAA GAATCAAATC TAAACCACTG
179551 TGCCCCAGAA TTAATCTTCT GAGGGCAACA CTAACCAGTT TTATGTCATC
179601 CGCAGTCCAG ATTTCCACCT GATACTTTGT AACGAGGCTT TTCAAACCTG
179651 GGGCTGACTT ACCTTGACCC ATGAGGTATC AGCAGCCACT CATGACCGTG
179701 CCAGGATTAG TTCCTGAATC TAAATACATC AGAGCTTCAG AATCTAAATA
179751 CATCAGGGCA AATATCTTTT TATTTGCTCT TGAGGTCCCA TGCATTCCAC
179801 TTAATTACCA CTACTAAGAG AAATGCCTTA CAAATTCACA CATACCAAGC
179851 ACTTATTAAT GTGGTTAAGT TGGACACTGC ATAAAAGCAA CACTTCTCAT
179901 ATCCACCTCC AAAATAATGA ATTATTCTGA AGGTTCACTC TACACCTCAC
179951 TGCATTTAAG GAAACAGATA GAAGTACAGG TCACTCAGCA CTATGCAGGA
180001 TCACATCCTA AGAATATGCA GCACATTTCA GCTGTACTCA CAGCTGGTAG
180051 TTGGACCTTT TAAATCTAGA GCATTAGACA CCAATGTATG CATGCCTTCT
180101 TTTTCTGTT GCATTATGAC TATATTCTTA TAAAATTCAT TGCAGGTAGA

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Z1 gene exon 6

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180151 AAGAGAGCTG ACCCAGGAAA AATTAGCTGA ATGGTCCAAC TCAGCCCGTA
180201 TGATGAAAGT CGAAGTGGAA CTGTACCTGC CCAAGTTGAA GATTGAAGAA
180251 AATTATGATC TTACATCCAC TTTGAGCAAC ATGGGGATAC AAAATGCTTT

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180301	TGACCCTGTT	CAGGCTGATT	TCACAAGGAT	GTCAGCAAAG	AAGGACTTCT
180351	TCCTATCAAA	AGTTATTAC	AAAGCTTTTG	TGGAGGTCAA	TGAAGAAGGT
180401	ACCGAGGCAG	CAGCTGCCAC	AGGTGTCCTG	GTGTTGAGGT	CAAGAACACC
180451	TAGAGTAACT	TTCAAAGCCG	ACCACCTTTT	TCTCTTCTTC	ATCAGACACA
180501	ACAAATCCAA	AACCATCCTC	TTCTTTGGCA	GACTATGCTC	ACCTTAGTCA
180551	GAGTCACTCC	CTGCTCTACA	GAGCAGGAGA	TGCTGGCTTG	CCAGCTCAAG
180601	GGCAGAGCTT	GATACTCCTG	CTGCAGCTGA	GGGACTAAGA	CCTGCACTCT
180651	TTCAGACTAC	ACATTCCACA	GCCCAAGGCA	AAGCTTCAAC	TACTCCAGAT
180701	AGCCATAGCA	GTGCCTGTAG	ATGCATTTGA	TTCTTTCCTC	TTGCAGCAGT
180751	AGATACAAAC	ACATGGCACT	ATCTTCGTTT	TCACAAGTAG	AGCACCTGAT
180801	TCAGGTGTGC	ATCTTCACCC	TTCCACCCTG	CCATAATTAG	CCCCTGCTCC
180851	TCTGTAGCTC	TTGACTAGTT	CTTTTTGTTA	CAGAGGCACA	CACAGCCCAA
180901	GCTTAAGTCT	TTACCAGTTC	ACTTCCATTC	TACTGATTGC	CTGAAAGACA
180951	TAACAAGCAC	ACACTCCCAC	GTGGGCTATT	TCCTCGCACG	GAGTTACAGG
181001	TGTGACAGAA	GAGCCTGACC	CATGCTGCTG	ACTTTATACA	AAGCAGCACC
181051	TGCTTCAAAA	ATAGCAGTAC	TGATAATAAA	CAACCCCTCG	TAGCTTGATG
181101	GTGCTTTCTG	TCAGCTCTAC	CAGGAGGGGA	AGGCAGAAGG	GGAAATCAAG
181151	CAGCGACAAG	AGGCTCGCGG	AGGTAGCGAC	CTCCGAGCTA	AAATGGCCGC
181201	CTCCCACTGC	TGCAGCGAGT	GCTCAGGGCC	GCTTTCCGCA	GCTGAGCTCC
181251	AGCCCTCTCC	CCCACGATGG	GCGGCCCGTG	GCTAGGCAAA	AACTTCCGGG
181301	AGGAGGGCGG	GGCAGAGGCC	AGGGGAAAGC	TGGTGCTCGG	CTGGGTGAGT
181351	GTGGAGGGTC	TGTGTTGTTG	TTTTCTGCGG	GAAACACGCA	TTGTTTTTTT
181401	GAGGGGAGAC	GGTAGCGTTT	CCCTCGCGGC	GGCGCTCTGA	GCGGTTTCGG
181451	CGGGCGCGGC	CGCCGGGCGT	TGACCGGGTG	CTGGAGGCGG	GAGGGGCCCC
181501	GCAGAGTTCC	GCACCGCTGG	AATCCATCCC	TGTCATCCAG	CCCTGCCTCT
181551	GTGGGTTTTG	TGGCAAACAG	CGGGAAATCG	ATGGAGAGGT	GCGAGCTTCA
181601	GCCTGTTCTG	AGTCACAGGG	AGAGAGCTTG	GCCAATTGTC	CTGCGCCCAG
181651	CCTTATTGGA	GCTGTAAGGT	GCACGGGATT	AAATCGCTCC	TGCTTCAGGC
181701	AGAATGGAAG	GACTGTTTTCA	GTCCAAGTTT	TCTTTTCATC	AGTGTTTTTTA
181751	TGGCTATGGG	CAGAAGGAAA	CATGAGTACA	GCTGCAGCTG	TTGAACGTAG
181801	CCAAGCTCCT	ACCAAGAATT	TGTCTTAGAG	GAAACATGCC	TGAGGAAACT
181851	TGCTGCTACC	GCTTGTTTTGA	GATGATGAAT	CATTAATACA	AAGTAGGCGT
181901	TGGCTCTGTA	TTTTCTAGCA	ACGTACCAAC	ACCAGGCACT	GCCTTAGGGG
181951	AAAAAAAACA	AACCACCTTT	ACTACTAGTT	GATATCCTGC	GATGTCCTGCT
182001	GGCACTTATC	TGTAACCTTAC	TCCACGTTCT	GGCACTCGTT	GCTCCTTCCT
182051	GTAGGTATGT	AGTATAACTT	CGGATTAGTT	AGCTACCTGC	TCGGCTGACG
182101	TATGTGAAGT	CTGACAAGCA	CTGAGCTACG	TATGTGCCAT	GAAGTTCCCA
182151	ATAAACCGTT	TACTTTATTG	CGTCTGTTTC	CATCGTGTAG	ACAATAAAAG
182201	GCAAAC TGCA	GTGGACTTTG	ATTTTGTACC	ACAGCAGGAA	ACCCAGTAA
182251	TCTGTAATGC	TGACCAGATA	AATTTGCTTT	GAATATTGTA	GATCGAGTCA
182301	TTCAGTTGGA	TTCTGGCAGA	CTGACTGCTA	GGTCTAGAAC	ACAAGTGAAG
182351	TAATCTTGAA	GGGAATACTG	AAGACACACA	GACTTTGAGA	AGGTGAGTTT
182401	ATAATTCTGC	CATTCTGATA	CCTTTCTGCT	TTGGTTTTCC	TGTAAAGCAA
182451	ATAACTGTCT	CTGTGGAGCC	AAAGGAGACT	TATTCTACCA	AGTCCTAGTA
182501	TGCTCATCTC	AAAAAATATA	GTATTATTTA	CTCCATGAAG	AAGACCAATG
182551	ACTTTTCCTC	ACTACAAGAA	AGACATTGAG	GTCTTGGAGT	GTTTCCAGAG
182601	AAGGGCAAGA	AAGCCGTGAA	GGGTCTGGAG	CACAAGTCTT	ACTATTGAGT
182651	GGCTGAGGGG	GCTGGGATTG	TACAGCCTGA	AGAAGAGGAG	GCTCAGAGGA
182701	GACTTTATCA	CTCTGTACAG	TGACCTGAAA	GGAGGTTGTA	GTTGGCCTCT
182751	TTTCCTGGGT	AACAGCAATA	GGATGAGAGG	GGATGGTCTC	AAGTTGTGTC
182801	AAAGGAGGTT	CAGATGGGAT	ATTATGAACA	ATTTATTTTC	CGAGTGGTGA
182851	GGCACTGGCA	CAGACTGCCC	AGGAAGGTGG	TGGAGTCACG	TCTCTGGAGG
182901	CATTTAAGAA	ACATGTAAAT	ATGGCACTGA	GGGATGTGGG	TTAGTGGACA
182951	TGGTGGGAAT	GGGTTGACAG	TTGTACTAGA	TGATCTTATA	TTTGCTTTAT

183001	GGTTTATATT	GAGAAATGTA	AAAGACAGAA	ATAGGTTGTC	AGTTTGTGAT
183051	CAAATAAATT	TAAGCCAATC	TTCATTTTTT	TTTTTCTCCT	AGGCTTTGAA
183101	CCATGGATAG	CCTCAGTGCA	GCAAAATCCA	CTTTTGCTCT	TGACCTTTTA
183151	AATGAGCTGC	GTGAGAAAAG	CAGCACAAAG	AATCTATTCT	TTTCTCCTTT

Z2 gene exon 1

183201	TAGTATTTCT	TCTGCTTTGT	CTATGATTTT	ACTGGGTTCA	AAAGGGGACA
183251	CTGAAGCCCA	GATAGCAAAG	GTATGTATCC	AAACGTAATG	TATTGGATTT
183301	GATGCATATA	TCATCTACTT	AATGATATAT	GAACACAGA	TCTGAGATCT
183351	GTATTACAGT	CTGTGACCTC	TAATTGCTGA	ATTGTTACAG	TCATTCTGGC
183401	CTCAGAGGTC	AGAAGTCTTC	CTTAGGTATG	TACATAAGCA	GAACCTATTT
183451	CTATTGAGTT	TATGTATAGG	ACTTACTGCA	GTGTGAAATT	AAGAGATTCC
183501	TGTTTTTTGG	GGTGTGTGTG	GGTTTTTGT	TGTGATACGG	AGATCTTCCT
183551	TTTATATGTC	ATTAACAGGC	ACCTGGAATT	TCTTTTTTTT	TTTACTTACA
183601	TATTTGTATA	TTTAGAGCTA	TAGATGAATC	TCCAGTTACA	TAAAATAATT
183651	TACTTTGTAA	TCTTTTTGGG	CTTAATATCA	GACTTTGCAT	ACTTCAAAAA
183701	TGTAGCCAGA	TAATCAAGGG	AAAAAAAATC	CAACATACAA	GCATGTCATG
183751	TTAAACAGTC	CCAGATTTTA	GGAAACAAAC	AAAAAAATGA	TCAGTTGCTT
183801	GTTTCAGTGTA	ATAGCTTTTG	TTTTCACAAC	CTGTAATCTC	AATCCTGGAA
183851	CATCCAGAAG	AAAGAAGTGA	TACAGGGCTA	AGAACATAGC	TCTGAAGTTC
183901	CAGAGAATAC	CCCAGCAAAG	ATTCAATGGG	GCAAAGCTGC	GTGGCCAGTG
183951	AAGAGTAAAA	TTCATAATGT	AAACTTGCAA	TTAAATTACC	AGGAGAGCAG
184001	TTAAGGAGTG	CAGTGGTGGG	CCTGTTGTGT	GACAGTAGGG	TCAAATCTAT
184051	CATTAAGTGC	AGTGCAGTTT	ATTCTACGTT	CACTAAGGTG	CGTGCCTGCC
184101	TCTCTCTTTC	TGGTATTGTA	ATTTGGAGTA	GATCATCAAT	ACTTTTTTCAT
184151	TTGTAGCTAT	GGTAGTAGTG	ATGAGGCTGA	ATGAGGATGA	AGCTGATGTG
184201	TTGTTTTAAT	GGGAATTTAA	ATATTGCTT	GTGTTGACAT	CGGCTCCAGC
184251	AGCCTATTTT	CTGTTATCGC	TTGAAGGATC	GGGTTTGCAT	CTAAGGTATT
184301	AAATAAGATG	CTTTGGTGCT	ATTATAATCA	GTGTGAAAAA	TTATGGAAAG
184351	TTGTTTTTTT	TTATTTAATC	TTCAGGCTCC	TTTGTTTCTG	GATTTTAAACA
184401	GTTTTTGCTAG	GTTTTTATAGG	GTGGAGATTA	TAAATCCTCA	GTTCTCTAAG
184451	AAGTACTGTG	TACAGCATT	AGAAAAGGGC	AGAATGTGTC	TGCACTCAGA
184501	CTTCTTTGGA	GGCTGGATGG	GTTCTTAGA	AAGCAGGGAG	ATAAACCCAGG
184551	TAACCTCCAT	AGCTTCCTTC	CAACCTCAAC	CATTGTGTGA	TCCTCTAATG
184601	CTTGACAAA	ATGAAGATAA	ATACCACTCA	CTTTTCAGCA	ACGTAATTTT
184651	TTGCTTATAC	AACATCTGTG	TGGATACATT	GTACGTGACT	TGTGTAATGA
184701	AAAATCTGCT	GGCTTCAAGT	CTCAAACTC	ATTTAAAAAC	AGAACAATTG
184751	TGCTGATGCA	AGTGTGTCAG	AGATTACGTG	GACTCCACAG	AAGGTATTTG

Z2 gene exon 2

184801	TCTCTCTGCA	GGTGCTTTCT	TTGAACAAAG	CTGAGGATGC	TCACAATGGG
184851	TATCAGTCGC	TTCTCTCTGA	AATTAACAAC	CCTGACACCA	AATACATCCT
184901	CAGAACTGCT	AACCGACTTT	ATGGAGAAAA	GACATTTGAG	TTTCTCTCAG
184951	TAAGTAAACA	TTAAATTTGG	GTGTTGTGAA	GTATAATGTA	CTTGCTAGCT
185001	ATTCCCCTTG	AAGGTTAGAT	AAAGGCTTTG	GGTTTTACTC	TCCAAATTTT
185051	TCTAGGCTGA	GACTTACAAC	CTGAGAGTCT	ATGCAAAAAG	CAGGATGTGA
185101	ACAGAATGGA	GAAGCTACTT	TTAGATTATA	TGAATGCACA	ACTGGTGCAA
185151	GACCATGAAA	AAAAACTAAA	TCTTCTAGGT	TTCTTGGTCC	ACTTTTGGTG
185201	GGTTCTAGGA	TCAAATGAAT	GACAAATCTC	CTTGCCTTTG	ATAACCTGTA
185251	GCTATGATGA	AAACAACGTG	TACTGCTGTC	CAGCATGGGC	AGAACTTTTC
185301	TTTTTCTT	ATTAAACAAT	CCAGAGAACA	TGCTGAGAGG	AGTATGTGAC
185351	TCTTAATATT	TTCTTATATA	GTATATATAC	ACAAGAGGGC	ACAGGTACGT
185401	TGCATATACA	TTACATATAC	ATTATAACAT	TGTATGTTCT	CTCACTCAAG
185451	CAAAAAGAAC	AAACGGAAGA	AACAAAAAGA	AACAACCCAG	ACAATCATTT
185501	CTCAGTTGAG	TACTGTAGAA	TGTTCTGGTG	TATTAAAGAA	GACATTTGAC
185551	TTCTTAATAA	CAAAGAGGAA	GATAATTCCT	AGCTCAGATG	GCTAATAAAA

185601 CAACTGATAA GAACATGTCA GACAAAACCT GAATGGCTTT ATATCAAGCT
 185651 GGGGGAAGAG AGGATATAGA TTTTCTCAG TGTACTTAAA AACATCTGTG
 185701 GCTGAATGTC AGTAAAATGC ATTGCTAAAA AGCTGTTTTA AATGTTTCATG

Z2 gene exon 3

185751 GCAGTCATTT ATAGAATCGA GTCAGAAATT CTACCATGCT GGGCTAGAAC
 185801 AGACTGACTT CAAAAATGCT TCAGAGGATT CCAGAAAGCA AATAAATGGC
 185851 TGGGTGGAAG AGAAGACTGA AGGTGAGTGT TCTGCAGAAC TCCCTGCTGT
 185901 ATGTAATGTC AGCCAGGACT TGCATAAACA GCTCTGTCAA GGTGTAATAC
 185951 TGTCAATTTT AAAGCAAACA CAAACCTCAG CCATTGTGCT CTGTCTCTGG
 186001 TTGGGGCATA ATTCCCATAT CTGATCTATC GTTAATACAT ATTAGATACT
 186051 CTGTATTGCA ACAGTTGCTT ACGTACCACT GTTCAATTG TGTCTTCTAA

Z2 gene exon 4

186101 AGGTAAAATT CAAAAATTGT TGGCAGAGGG AATTATTAAC TCAATGACCA
 186151 AACTTGTGTT GGTGAATGCC ATCTACTTCA AAGGCAACTG GGAAGAGAAG

MAR-like element

186201 TTTGACAAAG AGCGCACAAA AGAAATGCCA TTTAAAATTA ACAAGGTACG
 186251 CTACGTTAAT ATGCTGACAA TACAAAGGTC TTTGTAATAC AGAAGACAAA
 186301 AATTGTTCAA GCAGATTTAC CTAAGGTAGT CTGCATGGAG CTCCCTATGC
 186351 CCTGTCCCT TAGTATGAAC ACTCTCTTTG TTTAGTTTCT GTTAAGTTTC
 186401 ACATAATTAC TAAAACTTT AATATCACAT ATTTATTTTA TACTCTCTCT
 186451 TTTTTTTCCCT TTAATCTGCT TGTCTGTGTT TCAGTTGGTG AACTTGACTA
 186501 TGTCAGTGTA AAATCTGCAT GGGCAAAAAA CATTTCATAGG TTCCAGGCAG
 186551 AAAAGAACTT CCGTGTGTGC AGAAATGTCT GAATATAGCA GTCATCTTCA
 186601 GTCAGAATGC TTTCTTTTCT GCTGTGTTTC TACCACTAAA TTGATAGAAA
 186651 TGAAATGAGG TGAAGAAAAA AAAAACCCT CTCCTTTGAA GGCCTCCATG
 186701 CTTGACTTTC TTTTGCTTCT AAAAGTGCAG CAGGGCAATC GAGGAGGACT
 186751 TTATGATA TAATTAATAG TCATCGGCTG CCCCTTAGAG GTCAATTTCA
 186801 AACTCTGGAT GTCCACCCAG GTGTCGTGAG AGTGAAGTGC TAATGTGAAT
 186851 TGCTTAAGAA CTCACCTGCT TAAAATAACC ACAATGCAA ATTGAAGCTC
 186901 TAGTGCCTAA TTTCAAACCT CAGTGTGAA ATATATACAG GAATGCTTGA
 186951 AACTGCTAAT ACCACTTTTC AAACAGGGAA TAATAATATT GCTCTTGCCA
 187001 TACTGTATGC TATAGCACTT AGAAACCCT GCACTGACTT GGTCTCTGTT
 187051 AGGAAGGGAG GTTTTTTATC AGTTTCCAC AGAGATGTCA CACAAAACCC
 187101 AAGCTTACAT TCTGCTTAGA GTTTTTTCCCT CTCCCTCCTC AGGAGGCAAA
 187151 TCCAGTGCTG TTTCTCTGGG TACGAGGCTC AGCCTAGTTC TGAGATTACC
 187201 CTTTCCTTTG CAGACACACA TTTATTTTGT AAGACTGCAG TTTTGGGAT
 187251 GCAGATGGCT ATTGGAACAA GTTGTAAGAT GTGAGACTGG GGAATGCTGC
 187301 CTTGGCTCAT CAAGTAACAC GCTGTTAGAT GTGCAACCAC AAACCTCTTC
 187351 CCTTACAAAA CTAAGTGGCT TAAATTTCTA TTTTCATCCT ATTGATGACT
 187401 AGTCACTGAT GAGCTACAGA AGTCAATGAG TAGGCTCAAA TAAGCAATGA
 187451 AAAATCCAAA GGGCAAAGCT GAAGTTTTAA GCTAGTTATT TTACAGTCTG
 187501 TCCAGGAGTA GTTACTTAAA CATAACAGTA GTCTTCTGAG CATTCTGTGA
 187551 CATCTATTTT ATCTGTGACT TTTGCACTTT GTTGTGACTC ACTGGATGAT
 187601 TCTAGCATGC AGTGTGGGCT TTTCTTTGCT TATCCATCAT TTTTCATGTT
 187651 CACTGATTGC TGTGCAAAA TCATTTCCGA CATATTCTGT TCTCAGAGTT
 187701 CATGGCAGTC ATTTATAGAA TTGAGTCAGA AATTCATGCT CTCAATGGTC
 187751 TTTCCTTTAA AAAGAAAAAA CGGTGAAGGT AAGGGGAAGA AGGGATTTAG
 187801 ACTCCACAGA AAAGGAGGAA AATAATGTAG ACAAAGTAA CTGATGCTCC
 187851 ATGCAAAAAT GGAGAGAGAT GGGGGAGAAA CTGGTAGTAA GAAGACAAAA
 187901 GATTAACCTC TCCATGTGCC TTTTAAACAAT TCAAAGTGAT GCTAATACTT
 187951 TCCTAGCATT TTTAGTGGCT TAGTAAAATA TTTTGTGTC CCTACGTCAG
 188001 AGTAATTAGA GACACATGGA GTGAAATGAA AATATCGAAG TTGAAGTTAT
 188051 TTTGTATTTA TTTAAAGCAA GGAATACAGG CTCTGCTTAT TACCAACTTT
 188101 GTTTAGAGCT TGTCACACT TCTAAAGTGA GCAAATATGT ATTCTTGCTC

188151 CTTTACCCTA AAGCAAATTT CACAGATATC TCCAATTAAC AATTAAATCT
 188201 CAGGGATCCT TACTTCTCAT CTCTTGCTTT ACGAAAGAGT GACTGTGCTA
 188251 TACTATGTTA TGCAGTGTA TTAGTTCTCT GTGCAGTCAA ATAGTAAAAA
 188301 GCCCTAAGTA ACTAGATGCC TGCTTCATGT ATTAGGACTG TCATGCCAGC

Z2 gene exon 5

188351 CCAGTAGTAA CTCTTAGTGT CTCTTTCATT TTAGAATGAA ACCAAACCTG
 188401 TGCAGATGAT GTTCAGAAAA GGTAAATACA ACATGACCTA TATTGGAGAC
 188451 TTGGAGACCA AAATCCTTGA GATCCCTTAC ATTGGTAATG AACTCAGTAT
 188501 GATCGTTCTA CTCCCTGATG CAATCCAGGA TGAATCTACT GGCTTGGAAA
 188551 AGGTAAGTTA TTGAGCTCAG TGCAAAGACA GTTTGTGTCC TGCCTTGGAA
 188601 GAGAGTTTGG TGCTGCACAT GGATTCACAG TTCAGTTTCA GAGCTATTAT
 188651 ATCATTGATG CTCAAGACTG ACTGAAATGC TCCTTGTTGT TCTGCCCTA
 188701 AAGTGGCATG CCATCTATTA CTA CTGGCCA AGCTATGTGC TGCTGTGCTA
 188751 AGAGGCTCTG AAAGAGGCCT CATCAGAAGC TGTAATTATG GTGAAGCCAT
 188801 AGTATGATGA GCACCAAATG AGAGGGAATT TGGGGCAGCT CTTAGGAAGT
 188851 CCTTACCAGA ATTTCTACAG TTTGTCCCAT AGGTCATCTT AGTGAAGACC
 188901 TGGCAGATTG TCACTGCCCC TCTACTTGGA AACACGCTCA CAGAATAGTC
 188951 CAGGTTCCCT TCCGTTGTGA TGATAGAATA CAAGTCATGC TCTGGCCTCT
 189001 TGTTTTTTTT TCTAATGCTG ATTTTAATTT AAAAAGTGTT GTAAGCAGGT
 189051 TTTGTCACCA GCCCGTGAGC TGAAAGATCC TGAAAGGCTG AAGAACTGGG
 189101 TTCAGTTTGT TTGGGGCCTT GTCAGCAGTT CTCCCGTGCC TTTACTCCCT
 189151 ATATATAAAA TAAGGTTTTT ACAATCTGAT AATGTTTTAT AAAC TGAAC T
 189201 TTA CTGTATC TACCACGAAA AAGAAAACAC CAAACAAGAA TTGACCTCAG
 189251 CTGAAGCTGT AGTCTCTAGT AAGTAGAAAC CTGTAGTGAC TTGTGCTTTT
 189301 GACTTGGGAT CCTGTAAGCT CCTGAAAAAG ATGCATATTG CATGTATGTG
 189351 TTTACATAAC ACACATACAC AGACAAAAGT AGAGATTAGT GCAAAACTGT
 189401 CACTATTCTT ATTTTAATTA CCTAATGTTG GGTATGTTT CGTTGCTTTT

Z2 gene exon 6

189451 TTTGTTTTTAA GCTGGAAAGA GAACTTACAT ACGAGAAGCT GATGGATTGG
 189501 ATCAATCCTG AAATGATGGA CAGTACAGAA GTGAGGCTGT CTTTACCCAG
 189551 ATTTAAACTG GAAGAAAATT ATGATCTGAA ACCCATCCTG AGCAACATGG
 189601 GAATGCGTGA TGCGTTTGAC TTACGGATGG CGAACTTCTC AGGAATCTCC
 189651 TCTGGTAACG AGCTTGTGCT CTCTGAAGTG GTTCACAAGT CCTTCGTGGA
 189701 GGTCAACGAA GAAGGCACTG AAGCAGCAGC TGCCACAGCA GGAGTGATGG
 189751 TGCTCCGTTG TGCTATGATC GTTCCCGACT TCACTGCCGA TCATCCCTTC
 189801 CTCTTCTTCA TCCGGCACAA CAAAACCTTC AGTATTTTGT TCTGTGGCAG
 189851 ATATTGCTCT CCCTAAGAAG AGAGACAGAA GAGCTACCAT TAACGCAGTA
 189901 ATGTGATTTT TTTTAGGATA GAACTGCTCT TTTGCACTAA CTGCTTATTT
 189951 CCACTGTGCC TGAATCCCTT TATCTGGTTG TCATTTTGGG CTTGCGTAGA
 190001 GTAACAAAGC CACTTACACA TACACAGCAG CTACCACTTG AAACAGCTGC
 190051 CTTACACTTT GCACCTAAGT GGAGTTGTTT TCTTGCTGGC CCAAGAAAGA
 190101 TGAACATCCC ACTTGCTCAG TGAACCTCCA CCTGTCTTAT ATTTTCTATT

MAR (0.658)

190151 GCACTTTGCT TTTGTGTGGC CACCAGGTAG CAAGGTGACA AAGAGAAAAG
 190201 AAGTGGATTT TGTTTCTGAC TATAGTGGA GATATCTTAT GCTCTGCTCC
 190251 CCATTTTTCT TCCTCTCCCC ACTTATTTTT AACTTTTTCT TTAATGTTTT
 190301 GATAATAGAG GGAGATGAAA GGAGGCTTTG GCGACCTATT TGTAAGAGTT
 190351 ACTAAGCATC TGCACTAGAC AGAGGTTTTA TTATAACTGG ATAGCACTTA
 190401 CACAAGGATG GGAATAAAAG TATGTCTGTA ACAAATGACC TTAGAGGTTT
 190451 TCATGGAGTA CGGATTCTTA TCTTAACACC ACATGTGCCA CCTGGGAATA
 190501 TTAGCTATCA CTCACCTACT TCATTAGTCT TTTAAAAAAA GAATGTTTTT
 190551 AAAAAACAAAC AAAACAAAAA AAACCCATAG ATGCCTATGT AGTATTTAAG
 190601 TGACAGAGCT TTATTTTTGT TTTTCAGTCT TTATATGTTT TTTTCCCTATT
 190651 CTGGGTTTGT AAAGCATCTT TGTTAATCTG AATGCCAAAG GTTTCTTAAC

190701 GCAGTGATTT ACGTGTTTTG CTGTTCTTGA AAGAATAAAC AAATTTGTTG
 190751 TGAGTGCTGT GGGCATTGCC CATAAATTTT GTGGGGTTTT TTTTTTTCAT
 190801 GGCTACTGTA AAGAAAACAA GCAATCAACT TTCGTGTAGC TTATGCAGAA
 190851 TTCATTGCTT AACAGAGGCT TTTCTGAATG CTGCAAGACC AAGATGCTTA
 190901 CCTGGATTAC GATGGAGTTT AGGTTTTTAC CTTCGAAGGA TTCATAGCAA
 190951 GGAGTCTTTG AGGCAAAGGC TCAAGGGATT TTAAAGACTA TCTGGTTCCA
 191001 ACTCCCTGCT GTGGGCATGG CTGCCCAGGG CTCCCTCCTC CCTGGCCTTC
 191051 GACACCTCCA AGGATGGGGC ACCCACAGCT TCCCTGGGCA GCTGTGCCAG
 191101 TGCCTCACCA ACCTCCAAGT GAAAAAGATC CCCCTGACAT CTAATTGAAA
 191151 GTTCCTTTCA TTTATTTTAA AGCCATTCCC TCTTATTCCA TCACTATCAG
 191201 ACCAAGGCTC CCTTTATGTA TTGGAAGGCC ACAACAAGGT CCCCTTGGAG
 191251 TCTTCTCGAG GCTGAACAAG CTAAGTGCTT GTTTCAGAT GGGGTACTGC
 191301 TGCTGTGGGT GCAACTCCTT GGCCCCAGGC CAAGGAGTGT GCCATGCCTC
 191351 AGATGCACGC ATTAGTCACC ATTTGGGGTG AGGAAGCTGC CAAAGTGCTG
 191401 CCTGTGACAG CGATGCTCAG TCAGGGCTGA GAGCAGCAGT GGGTAGAAGG
 191451 GAAGTGGGCA GCCTCTGCTC CCAGTGCATT GTCTGGGAAG GGGGTGGTAG
 191501 CAAGATGAAA AGTAGAAATT TTTCTGACCC TTCCTACGTG TCCAGGCTGC
 191551 TGCTGGAGTG TATTCATGGT GCTATGCTTA AAGTGAAAGC AAAAGCGTGC
 191601 TTGTCTAATT TGCTTCTTTT CTAAATTGAA AAGGAAAGTA ATCACATTAA
 191651 CGTCTACCAT AAAGCAGAGA GAAGCTGCCA GAAAGCTTGA GAGAAGCTAG
 191701 AAGCAGCCAT ATCTACAAAT CCCAGTGCAA ACAAGAAGGA GGGATCCAG
 191751 CTGCACAAGC AGGAAGGCAG GAAGGTTTTA CAGCACTGTC TGCCGCCAGC
 191801 CTTTGCGTAA CCATCTGCCC GCCCCAGCAT TGCACCTTTC AACCCACTCC
 191851 CAGAGACCTC ACAGCTCCCA GTGGTCCTAG CTCCAGCTTA CTGCTGGCTG
 191901 CTCTCCTCCT GGTTTGATCC TCCCTAGCAG CTGCCAAGCA TCACAGGAGG
 191951 TAAGTGTGTG CTTGCTGTGC CTCTGCATT TGCAGCCTGA AATGAATCCA
 192001 GCCCTTGGA CTCGCACTAG GGCATCGAGG AGTGCTTTCT GAAGCCTTCA

z3 gene exon 1

192051 CTGAAACTTT TATTTTTTCAG CTGCAGCCAT GGAGAGCCTG AGCAATGCCA
 192101 ACAGCAGGTT TGCACCTGAT CTCTTCCGAA AGGTAAATGA GACGAACCCA
 192151 TCAGGAAACA TTTTCTTCTC CCCTCTCAGT ATTTCTACTG CTCTGGCCAT
 192201 GGTCTCTCTC GGGTCCAGAG GTAATACAGA GACACAGGTG CTGAAGGTCA
 192251 GCAGCATTTT CGCTTGTTTT ATTAATAATTA AATGTTGTTC AGTTTTAGAG
 192301 ACAAGGCAAG GGGAGGAGGG CGTTATTTGC GTGAGCTTGG GGCAAGGTTT
 192351 CTGTCACTCC TGCTGACTCT TCCCCCTGCT TGCCACCTGC CTGCTGCACT
 192401 CCAGAGCCCT CCTCTTGTC TCACTGATAG CCCTTCTTTC TCACTTCATT
 192451 TGGGTAAATT GATGAATCTG GAAACTAATT TCACTGATTT ATCAGTCTTA
 192501 ATTTAAATC GATTAGCATC TCCAGCAGCA AGTCTTTACT AGAGCTTGTG
 192551 ATAGGACATG GGGGAACAGC ATTAACAAA AAGGGAAGAT TTAGGCAAGA
 192601 TATTTGTTAG AGGAAGTTTT TCCACTGAGA AAGTGGTGAG GTGGTGGCAC
 192651 AGCTGCCCAG GGAAGCTGAG GGTGCCCCAT CCCTGGAGGT GTTCAAGACC
 192701 AGGTTGGATG GGGCCCTGGG CAGCCTGAGC TGGTGGGTGG CTGCCCTGCC
 192751 CACAGCAAGG CAGTGGAAC TGGTGGGCTT TAAGTTGAAT TCCAGCCCAA
 192801 CCCCATTCTA TGATTCTATG AGCCTTTTCC ACAGAGAACT ATTGTTTTGC
 192851 AATGTATACA TACATAATGG TATACATAGT AATGCTAAGT GTATCTTATA
 192901 AATAAAAAAT AAAATATAGA GCTGTATTAT TCTAAGGCTG ACAACTGTTA
 192951 CAATACATGG TGATGTTACC CAAGACCCAG TGTTATAGCA GCCAAGCACC
 193001 CAGTATTTCT GAGGAGCAGA ACTCACGTGT CCATTCTCAT GGTATCCTTA
 193051 GGTTGAGCAG CAGAGGTTAA ATGAAAATGG TGTGGCTCCT TTAAGGGGG
 193101 CTTTGTTGTG GACCCAGCTC ATCAATCCTT TCCCACTCTC CACAACAGCA
 193151 GTTGCAAACT GCAAATCTC ATGTAGGTAG CAGTGCCAAT TCCCTCTCAG
 193201 ACTCATGTTT AAAAGGGACC CTGCCTCTTT TTTAATTTGC AAGGCAAACA
 193251 CCTGCTAGTG CAAGGGGAAG TATGAAAGAA TTGTCGCTGT AGTTCCTATT
 193301 AACTTATTTG CCCTATGATT AAGTTCACCT TTGTATTCCG AACTTTAGGA

193351	AGAACTTGTT	TAGACCATTA	ACTGCTGCCA	TTCTTTGTGA	AAAGACTATA
193401	AAACTGAATC	ACTGCTTGTA	GAAACAGACT	TTGAACATAC	ATTCCTTATA
193451	ACTCAACTGT	CAGCCCCACC	CAGGAAGAAT	CTACTGAGAG	CAGAAATAAT
193501	GCAAGAGAAG	CATAGGGAAG	TTGGAGATAG	AAGGTTGGGA	TGAATGGTTG
193551	GACTGGGTGA	TCCTGTGTGT	CTTTTCCAAC	TTCAGTGATT	CTATGATTCT
193601	AAGGTGTTTC	AGCACAGTAA	CCTTCTGTAA	TGCACATTCC	CATGGTATAA
193651	TGTTTAATTG	ATGAGAACAT	CAGTTAATTA	AGGAGATGAT	GACTGATGAG
193701	TGTGAAGGGT	GTTTATAAGC	ATGCAGAAAT	CCATTTCTGG	GATCATAATC
193751	CTACCTTAAG	TTGGAATCAT	AGAGTACACC	ACGGTGGAGG	GGATCCATGA
193801	GGATCCAGCT	CCACACAGCA	CCACCCACTA	TGGTAGATCC	TGCTGCCCAA
193851	CCTGCACACC	TTGGCTAGTC	AGCTTCCCTT	CAGGTATCTG	TATGCACGCT
193901	TTCATATTAT	AACAGCTTTT	AATTTTAAGG	TGATAGTTGT	CTGTAGAAGC
193951	ACTTATATTT	TCATAAAACC	AAAGGTTATA	GCTCTCACAT	TTTCCTAACA
194001	CCTCACCTTC	CCTGAGTGTCT	CAGACAAGCT	CAGTAGTCCA	CGGAGGAAAA
194051	ACATGCAGAC	AGCACCTTAT	TAGGACTCTG	GATCACAATT	AACAGCTTCA
194101	GCTGTGGCTA	ACTGTATTCA	GCTACTGCTT	TACAAGTGAC	ATGGCTGGCA
194151	CAGCACTAAG	GGACAGTTTC	ACTTGTFTCTT	TGATGGTTAC	AGCTTTCAGC
194201	TTCTTTCTGC	TTTTGTTTTT	CAACTTAACT	ACCAAACAAA	TACCATACAG
194251	ATATGCTGCA	TGTTCTCTAT	AAATACAGCA	TTAGCAGTAG	TTAGCTCATC
Z3 gene exon 2					
194301	TCTTTCATTT	CAGACGTTTC	ATTTTGATGA	AGTTGAAAAAT	ATACACTCAA
194351	GATTCCGGGC	TCTGACTGCA	GACATCAACA	GAAGGGATTTC	TTCCTGTCTC
194401	CTACGGATTG	CCAACCGGCT	TTATGGAGAG	AAGTCCTACA	GCTTTCCTGCC
194451	GGTATGGGTA	CACAGACCAT	AGCTGTGTGG	TGGAACCTGG	GGGGAGGCTT
194501	TGTAACCTCA	TCATCTGTTG	CTCTCCTGCC	TCCAGAACGC	GCCCCATAGC
194551	AAAAATATCA	CACCAGCAAG	TCCAGATGTC	AAAACTATCT	TTCTGCATCA
194601	ATAAGCAGCA	TAGCTCAGGT	GTTGCTGTCT	TTATAGGAAT	GCAGCCATTT
194651	GAGTATTTGA	GGTAAAAACA	TGACTAGACA	TCTAAAAGTT	ACCAGGCAGT
194701	CAGTACGAGT	GTTGTACACA	TGCCTATAGA	TGCAGAAATG	CATATGCATC
194751	TGGACATCCT	AAAGGATACG	CCTAGAGGAT	ATTACATAAC	AAATCCCTTT
194801	CTTTGATAGT	TCAGTTCTGC	TGCTTTGGGG	CTCAAGAGAA	ATTGCAAGCC
194851	ATGTAGGTTT	TTAGCTTAGA	GTACAGATTA	GCAATGCCCC	ATTCCTCTGT
194901	CTGTTGTTTT	TTAGGCTTTT	CATTGCTCTA	GTACTATATT	ACTTAAAACA
194951	TTTTTGAAAA	CATTTCTCTG	GGGGGAGATT	GCCATCATGT	CTCAACAGCA
195001	TGCCTCTTTA	CAAGGGAACT	GTACCTCTGC	ATCTATTTAG	GTACTGCTAT
195051	TTTTATCCCT	CTCCAGCTCT	TTCTGGGAGT	TTTTGTTTTT	TTAGTCAAGC
195101	TT				

Fig. 1

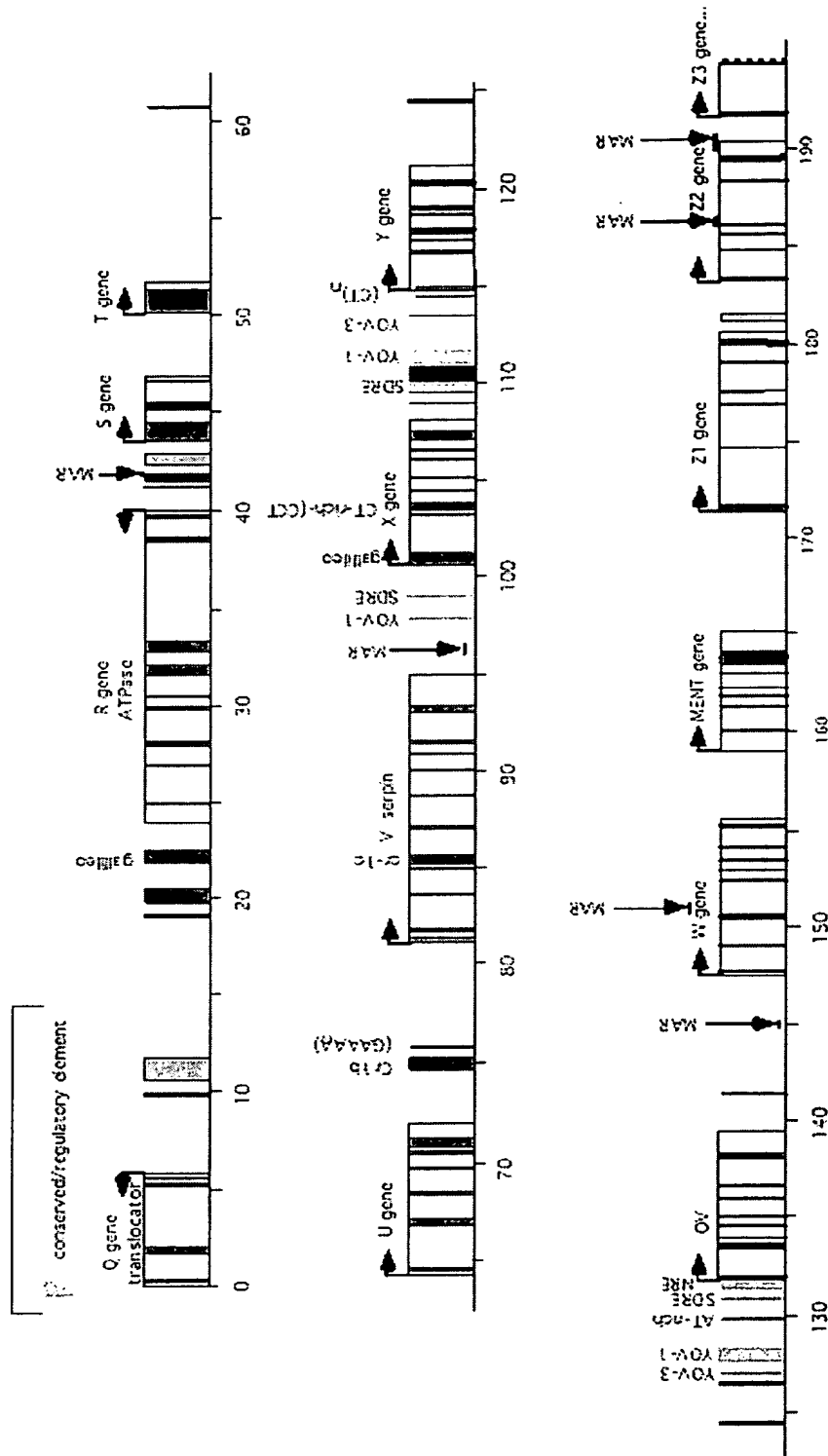


Fig. 2

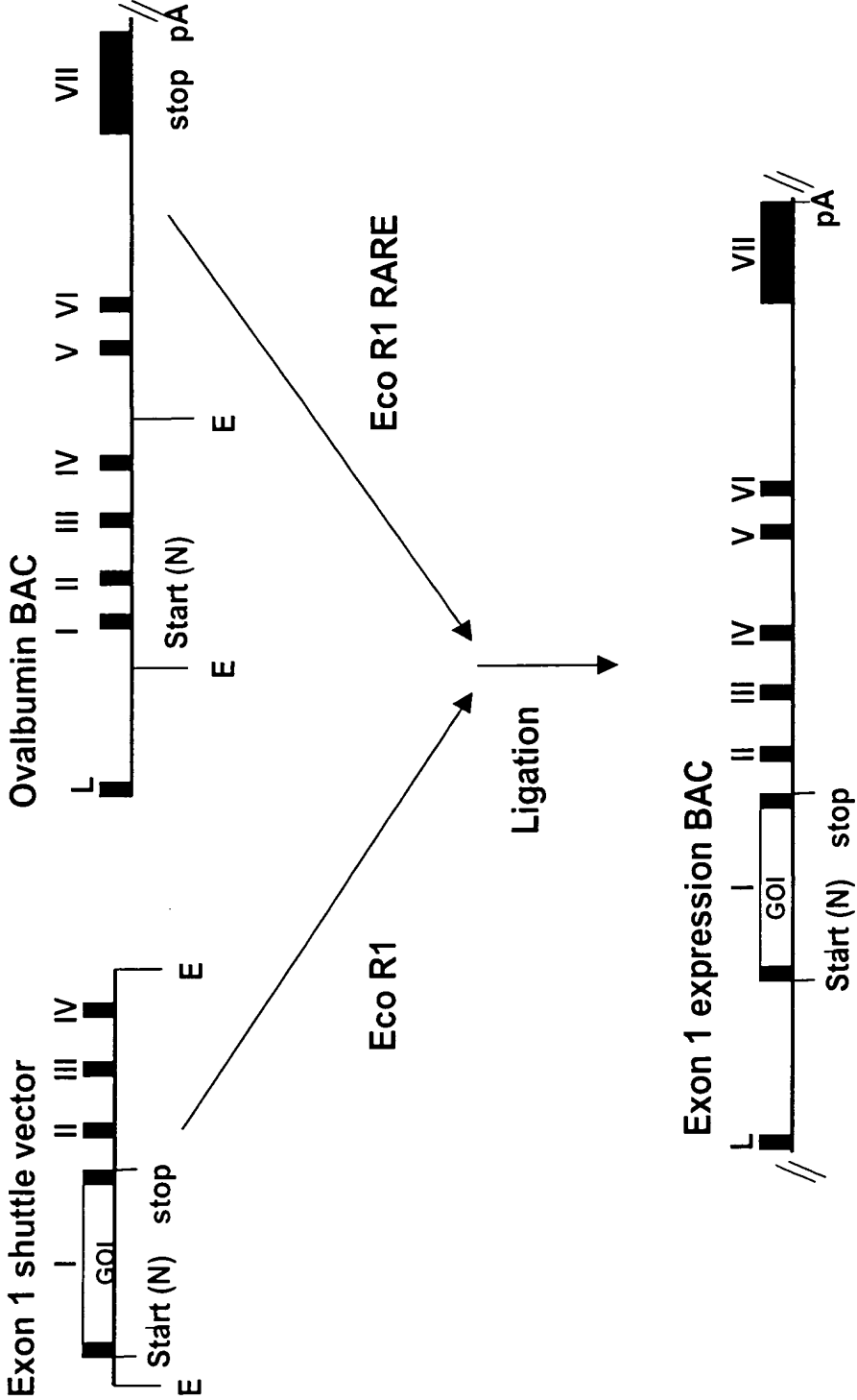


Fig. 3

SEQ ID NO: 2

AAAGTCTAGAGTCGGGGCGGCCGCGCTTCGAGCAGACATGATAAGATAACATTGATGAG	60
TTTGGACAAACCACAACCTAGAATGCAGTGAAAAAATGCTTTATTTGTGAAATTTGTGAT	120
GCTATTGCTTTATTTGTAAACATTATAAGCTGCAATAAAACAAGTTAACAACAACAATTGC	180
ATTCATTTTATGTTTCAGGTTTCAGGGGAGGTGTGGGAGGTTTTTTAAAGCAAGTAAAC	240
CTCTACAAATGTGGTAAATCGATAAGGATCCGTCGAGCGGCCGC	285

FIG. 4**SEQ ID NO: 3**

TGCGATCTGCCTCAGACCCACAGCCTGGGCAGCAGGAGGACCCTGATGCTGCTGGCTCAG	60
ATGAGGAGAATCAGCCTGTTTAGCTGCCTGAAGGATAGGCACGATTTTGGCTTTCCTCAA	120
GAGGAGTTTGGCAACCAGTTTCAGAAGGCTGAGACCATCCCTGTGCTGCACGAGATGATC	180
CAGCAGATCTTTAACCTGTTTAGCACCAAGGATAGCAGCGCTGCTTGGGATGAGACCCTG	240
CTGGATAAGTTTTACACCGAGCTGTACCAGCAGCTGAACGATCTGGAGGCTTGCGTGATC	300
CAGGGCGTGGGCGTGACCGAGACCCCTCTGATGAAGGAGGATAGCATCCTGGCTGTGAGG	360
AAGTACTTTTCAGAGGATCACCTGTACCTGAAGGAGAAGAAGTACAGCCCCTGCGCTTGG	420
GAAGTCGTGAGGGCTGAGATCATGAGGAGCTTTAGCCTGAGCACCAACCTGCAAGAGAGC	480
TTGAGGTCTAAGGAGTAA	498

Fig. 5

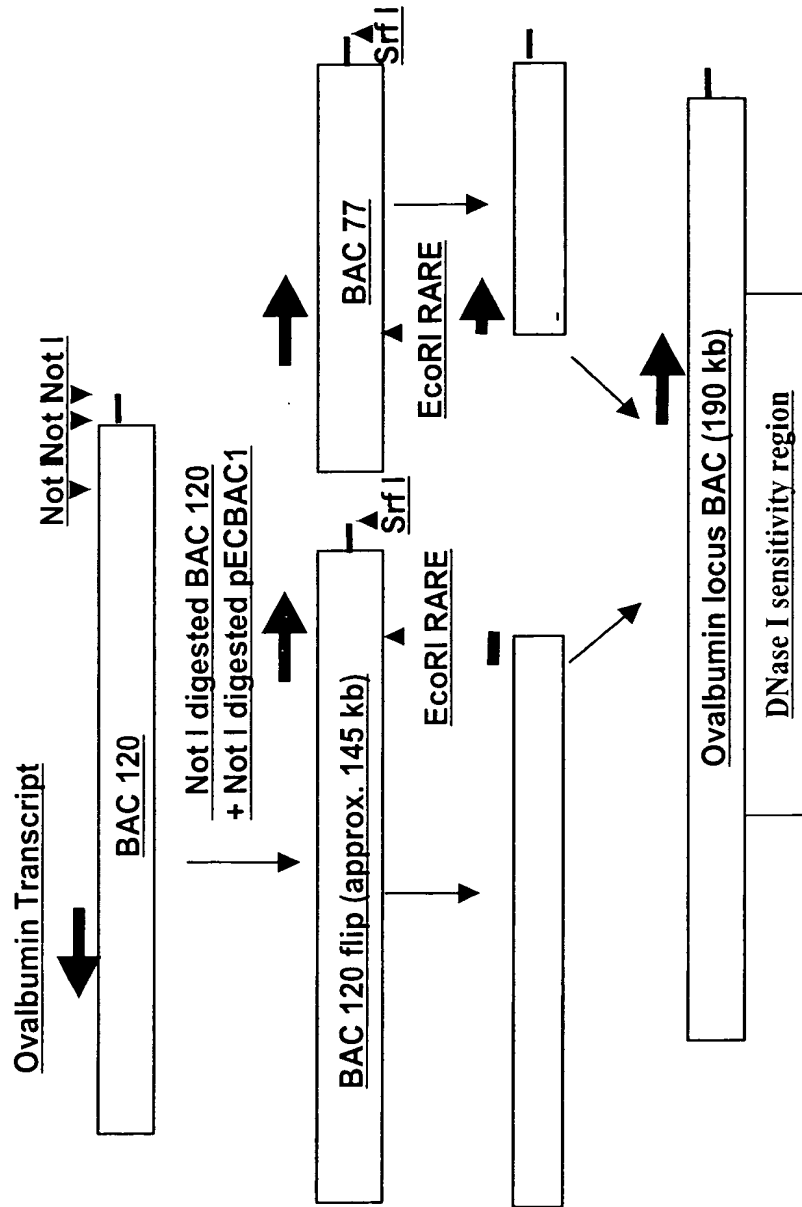


Fig. 6